U. S. NAVY Medicine

February 1975

UNITED STATES NAVY MEDICINE

Vol. 65 February 1975 No. 2

POLICY

U.S. NAVY MEDICINE is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry and allied sciences. The items used are neither intended to be, nor are they, susceptible to use by any officer as a substitute for any item or article, in its original form. The opinions and conclusions expressed in the articles or items included herein are those of the respective authors and do not necessarily represent the views of the Department of the Navy, the Bureau of Medicine and Surgery or any other governmental department or agency thereof.

DISTRIBUTION

U.S. NAVY MEDICINE is distributed to active duty Medical Dept. officers via the Standard Navy Distribution List (SNDL) vice personal addresses. Requests to increase/decrease the number of allotted copies are forwarded via the local command to *U.S. NAVY MEDICINE,* Code 18, Bureau of Medicine and Surgery, Washington, D.C. 20372.

Retired and Reserve officers on inactive duty may subscribe by forwarding request with full name, rank, corps, status, address and zip code.

Notification of address changes should be forwarded together with a recent mailing label.

See inside back cover for additional information.

The issuance of this publication approved in accordance with NAVEXOS P-35.

NAVMED P-5088

C O N T E N T S

Credits: All pictures are Official Navy Photographs unless otherwise indicated.

During National Children's Dental Health Week (2-8 Feb), Navy dental personnel intensify their efforts to teach the smallest members of the Navy family all they need to know about good dental hygiene. Pictured on our front cover, moving clockwise from the upper left corner, Navy dentists and dental technicians provide dental care and instruction: in a special pierside van at NAS North Island, San Diego, Calif. (photo by PH3 M.R. Morris, USN); at the Marine Corps Air Station, Cherry Point, N.C.; at the Naval Training Center, Great Lakes, Ill.; and in the USS *Midway*.

The continued support of the Media Division, Educational Programs Development Dept., Health Sciences Education & Training Command (HSETC), NNMC, Bethesda, Md., is gratefully acknowledged.

ON CAMERA.—The Navy Surgeon General, VADM D.L. Custis, MC, USN (left) is interviewed by TV reporter in yard adjacent to the Ward 17 conference room at NAV HOSP Orlando, Fla.

from the Chief

On this page in last month's issue of *U.S. Navy Medicine*, I outlined our Medical Department-wide objective of "providing quality care to all of our eligible beneficiaries while maintaining the same, or a decreased level of resources." I conceded that full achievement would be tough, yet reaffirmed my conviction that all of us together will do the job. Lest this be marked as empty rhetoric, I want to share with you now some supporting facts.

First, the wellspring of my confidence is based on the fact that Navy medicine and dentistry is blessed with a committed force of military and civilian health professionals, and paraprofessionals — a host of topnotch people with outstanding talent and supportive skills. It is second to none in the Nation. Our recent history clearly shows that when the chips are down and the extra effort needed, individually and working together, the fine people of the Navy Medical Department can meet and beat the toughest of challenges. Herein, then, lies our greatest strength, as well as our problem.

Second, we have a good functioning *system* within which to deliver health care. We have arranged that system into coherent interrelationships through regionalization, eliminating disjunction and fragmentation. We have provided an excellent organization medium to increase effectiveness, maximize productivity, and deliver comprehensive quality health services.

The responsibilities of our clinical activities are well defined, from primary care in our operational units to the specialized, sophisticated treatment in our medical/dental centers. Now, as never before, at whatever point of patient entry, we have the ability to assure progress and access to the full spectrum of service. Of equal importance during patient progression, preventive, diagnostic, therapeutic, and rehabilitative services can be coordinated to avoid unnecessary duplication of tests and effort.

Finally, we are rapidly improving the environment and functional capability of our fixed treatment facilities. The accelerated military construction program to replace or modernize all of our medical/dental installations remains on course. The original cost of this program was $684 million spread over a five-year period. Because of program restraint by budget decisions in FY-74 through FY-76, the original plan will likely extend to six and possibly seven years. Even so, the approved FY-75 construction budget is the greatest in the history of the Medical Department, and is 150% greater than it was in FY-70. However, the striking progress made thus far can best be measured by the increasing number of attractive modern treatment facilities. The design efforts are admirably directed toward efficiency, flexibility, conservation, and economy.

In addition to the people, the system, and the facilities, we have now implemented a potpourri of programs to meet the challenge of these demanding times. All are addressed in detail in my "State of the Navy Medical Department" BUMED SITREP — the videotape cassette being released this month.

These are the facts and factors on which confidence is based. Just one element is missing — *proof-positive productivity*. In a larger sense it is also missing from the entire American scene. In common with one another, although in varying degrees, we are distinctly soft and self-centered. I have also this month addressed a letter to all of our senior leaders, outlining many pockets in our operation that are in need of greater cost effectiveness; in every instance this translates into the need for greater productivity.

I assure you that I know and deeply appreciate the dedication of the great majority of our people. And I am impressed by the mature goal-directed senior leadership. Few organizations of our size and scope merit such pride in personnel, whose ordinary effort is outstanding, as do we. But these are not ordinary times, and only extraordinary effort will see us through probation.

We have just embarked upon a new year, equipped with all the essential tools to display our resilience and account. This is the year of our final analysis — the comparative and conclusive appraisal of our worth. We now need from every member, as from a runner in his homeward stretch, that ultimate spurt of vigor and productivity. It is not enough to profess our potential; this year it needs to be clearly shown.

Henry Longfellow said it best:

> "We judge ourselves by what we feel
> capable of doing; others judge us by
> what we have done."

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

THE SURGEON GENERAL'S Sixth Annual SPECIALTIES ADVISORY CONFERENCE and COMMITTEES' MEETING

THIRD PLENARY SESSION, 20 SEP 1974

DISCUSSION FOLLOWING REPORT ON PRIMARY CARE by CAPT J.J. Gunning, MC, USN, Director of Clinical Services at NRMC Camp Pendleton, Calif.* (See *U.S. Navy Medicine* 64[6] :36-37, Dec 1974.)

VADM D.L. Custis: It's going to take time to fill the void in primary care. The medical schools in this country are acutely aware that attitudes engendered in their schools have contributed to the present national crisis in primary care. The trend is now being reversed, and a concerted effort is being made to produce specialists who will retain their capability as generalists. *We can no longer afford the concept that a specialist is a consultant who sees only those patients who are referred to him by other physicians. That day is gone.* Today we expect all of our specialists to become actively involved in primary care. What do you have to say about filling the void in primary care, Admiral Waite?

RADM Waite: This meeting has served to jell a few things in my mind with respect to primary care in the fleet. When a regional medical center specialist is assigned to the fleet, he must provide primary care. A surgeon in the aircraft carrier, for example, is there to perform lifesaving procedures; but he can also be expected to pursue and perform elective surgery, the extent of which may be subject to consideration. Flight surgeons advise me that with little extra effort, sufficient anesthesia support can be provided for such a surgeon without a requirement for fully trained and certified anesthesiology professors aboard aircraft carriers. Along the same vein, there is certainly ample opportunity for psychiatrists to practice their specialty, on Okinawa with the Marine Corps, for example, and in other environments.

In terms of aircraft carriers, we're speaking of a population of some 5,000; it's a small town, and there is certainly room in which to practice a given specialty. There's an additional need to practice primary, basic medicine, however; medical officers must utilize both capabilities at sea, serving as specialists and primary-care physicians, at one and the same time. Line commanding officers at sea are going to see a quality of

---

This account of the 3rd plenary session of the Surgeon General's 6th Annual Specialties Advisory Conference and Committees' (SAC) Meeting represents an edited (sometimes paraphrased and/or abbreviated) version of the remarks and presentations of specified individuals. Their comments do not necessarily reflect official views of the Navy Department, or the naval service at large.

The Conference was held 16-20 Sep 1974 at Stouffer's National Center Inn, 2399 Jefferson Davis Highway, Arlington, Va. The 1st plenary session, and part of the 3rd plenary session were reported in the Dec 1974 issue. The 2nd plenary session was reported in the Jan 1975 issue.

Moderator: CAPT Steve Barchet, MC, USN, BUMED Code 316.

*Moderator: RADM-selectee D. Earl Brown, MC, USN, Deputy Commanding Officer, NNMC, Bethesda, Md.

medicine which they have known all along was there, but which had dropped out of sight. The fleet medical pool concept will restore our visibility, and reacquaint line personnel with the genuine concern, expertise, and broad based skill which you possess. Fortunately many of us have been to sea before, and know the way around a ship.

COMMITTEE REPORT ON FAMILY PRACTICE, by CDR R. Higgins, MC, USN, Chairman, Family Practice, NRMC Charleston, S.C.

The 4 Navy programs in family practice are quite similar basically, with minor variations according to the individual program director. In essence, our naval programs represent what the AMA calls Category A of a training program in Family Practice. There are 2 other categories which are primarily concerned with nonsurgical training, with more emphasis on pediatrics, internal medicine, and psychiatry. But we have chosen the Category A type, which provides for 11 months of comprehensive training in internal medicine during the 3-year training period. A minimum of 1 month is spent in a coronary care unit, and although the inpatient setting is emphasized, outpatient service is also included. Admission and management of coronary-care-unit patients is practiced under the guidance of the cardiologist, who provides instruction in EKG interpretation and other aspects of cardiology.

During the 3 years, 5 months are devoted to pediatric training in both the inpatient and outpatient settings, although the inpatient setting is emphasized. Time in the newborn nursery is also included.

During the 3 years a minimum of 4 months is devoted to OB/GYN training, to include routine and some complicated obstetrics, as well as experience in doing cesarean sections.

Four months are spent in the general surgery area, and the emphasis there is on preoperative diagnosis, postoperative care, minor surgery, and OR techniques. Variable periods of time (usually up to 3 or 4 months) are devoted to surgical subspecialties, to include specifically ENT and orthopedics; training is also provided in urology, neurosurgery, ophthalmology, and other surgical subspecialties.

Beyond this point, programs may vary somewhat. Neurology and community medicine are available in some programs; basically, 7 or 8 months of elective time are allowed for additional training in areas of weakness or special interest. Our own residents seem to enjoy obstetrics, and elect to spend additional time there.

Throughout the whole training program psychiatry, which is important to our specialty, is included. Psychiatric training is provided in a block setting in some programs; in others, the training is developed on a weekly basis throughout the entire 3 years. Emphasis is placed on psychiatric diagnosis, ongoing therapy of psychiatric patients and, more importantly, on family dynamics and family therapy.

For family-practice training, we rely very heavily on our other staff members. Just as all the efforts of a surgical resident culminate in the operating room, so does our trainee arrive at the Family Practice Clinic where he puts it all together and addresses the unique aspects of family practice, including the areas of preventive medicine, prospective medicine or health-hazard appraisal, and patient education.

This pretty well delineates the training of our residents and, hopefully, will enlighten people as to the capabilities of these residents who finish their training and go out into the hospitals to practice their specialty.

Some of the concepts in family practice bear repetition: we are not a substitute for the general medical officer. Rather, we are striving to improve the caliber of medicine at the primary-care level, going far beyond episodic crisis care. If permitted, such practice can yield many benefits and allow sufficient time to solve the real problems of the active-duty member, and his family; it can improve the quality of life, and increase the Navyman's productivity at work. This has been graphically demonstrated in our clinic where the number of sick call visits has been drastically reduced by the active-duty man, who can then spend more time at his job.

We've been criticized for limiting the size of a family physician's practice, but this is essential to our type of practice, allowing the formation of a close doctor-patient relationship. Once the relationship is established, utilization of our facilities is diminished, particularly after normal working hours. People are less anxious, more satisfied, and have trust in their physician. The physician's advice is respected, and, I feel better medical care results.

On the other hand, there is a mandatory requirement for adequate time in which to satisfy the total needs of the patient at each visit. We are sometimes criticized for overall limited volume in our clinics, but this fails to take into account the multiple problems of each patient which are addressed at one visit. Without this type of coordinated, comprehensive care, multiple visits to other clinics and departments would result. For a more valid analysis, we strongly recommend that the number of patient problems be counted, rather than patient visits as a measure of our productivity.

The question that must be asked is: "Does the Navy Medical Corps really want family practice in this context, or do they want instead another type of primary-care physician, trained to provide episodic crisis care?" There are advantages to both of these primary-care models in an institution the size of ours. We've heard about primary care from Dr. Gunning who provided a very erudite discussion. We feel family practice will take time to develop. At the present rate of training, we will still have a severe shortage 10 years from now. On the other hand, when family-practice specialists are available, the quality of primary medical care does increase.

DISCUSSION

VADM Custis: Dr. Higgins, I'd like to hear from you directly. I know you've been traveling, and that you have a feel not only for the quality of our training effort in family practice in the Navy, but you've also got a feel of the acceptance of family practice and the incidence of misuse of the family practitioner. Will you give us your view, and address the incidence of misuse in a little greater detail?

CDR Higgins: Prior to Jan 1974, all family physicians in the Navy (other than those occupied in the training programs) have been assigned as general medical officers in the Navy. One or 2 of them have been assigned to a single location, which does not allow a family practice to develop. You really need a group of 5, or more, in any 1 area to set up a viable clinic and to provide after-hours coverage.

In Jan 1974, in a workshop with CAPTs McMahon and Barchet, we outlined a program. Starting with the limited number of family physicians which we had, specific family practice clinics were planned and programmed for: Annapolis, Md.; Cherry Point, N.C.; Orlando, Fla.; Long Beach, Calif.; and Whidbey Island, Oak Harbor, Wash.

This year, we have more family physicians coming in via the Berry Plan, and we are also providing 20 more out of our own training programs. The concept of establishing a family-practice hospital where at least an equal number of the staff are family physicians, with representative specialists from each other discipline available to them for consultation, has evolved and is being developed.

I think that the misuse of family practice will be much less when this concept is more widely appreciated. We're not denying our role in primary care, for this is an area where we hope to serve. But episodic, crisis care is not what we're training to provide. The family physicians who have been assigned exclusively to provide episodic crisis care have become very disenchanted, and among them our retention rate has been about 0%.

RADM Rupnik: I think there is no doubt that the family practice physician has been misused in the past; through the efforts of CDR Higgins and CAPT McMahon, I would expect that the concept of the family-practice hospital will do much to enhance the quality of family practice. Further, use of the paramedical help that we're training — the physician assistants and the nurse practitioners — will certainly help in this regard. As we set up the family-practice hospital, the number of people who come to the emergency room or the walk-in clinics, the so-called "worried well," should diminish if we're to believe that the preponderance of people who come to our clinics are in the "worried well" category.

When family practice programs first began, they were limited to about 400 families. In some areas, the number of participating families is now being increased to 900, and will probably increase further in the future. If in doing this we can decrease the number of visits made by those who really don't need to come to the hospital — those "worried well," so to speak — I think we will enhance delivery of medical care. I really look forward with a great deal of expectation to the success of our family-practice program.

RADM Waite: This is not what I got up to say, but one thing I hear from Dr. Higgins is that we've got to be very selective about where we set up our family practice — in areas where it can thrive and be supported — and we cannot abort or subvert the original intent to primary care. Family practice represents a big segment of primary care, no question about that, but we should be very careful about where we send and set up these programs.

Out of custom or by historical fact there are many of us in operational medicine who, being situated at a submarine base or at a naval air station, took on families and still do — traditionally because we like to practice medicine. There's a direct relationship between a naval air station doctor or a submarine-based doctor who likes to practice medicine, and the ability to take care of families. From that correlation has flowed a proposition, that perhaps the operational medicine and family-practice specialties should be combined.

In the course of our regular meetings in Code 5, my staff is united in opposition to such a merger; and I'm sure that CDR Higgins would say, "There's no way family practice will ever tie its star strictly to operational medicine."

I think that there's room for expansion of this idea; but in terms of a Navy environmental operational-medicine specialist, if you will, and some of the other things that are coming along, I personally cannot accept the total concept of combining these 2 separate disciplines. We should consider this as a possibility — and it's very possible for a flight surgeon to also be a specialist in family practice — but I don't want to limit flight surgeons to being family practitioners. If they want to be ophthalmologists, or some other category of specialist — and I'm talking about all operational people now — then I'd prefer it that way.

CAPT Kee: I would like to say that in places like Scotland, where we have 2 physicians at Edzell and 1 physician at Holy Loch, that a family practitioner would be ideal. After the program has been developed, I would hope that they would be available to go to such areas; upon their return to CONUS they could reenter another training period for a specified amount of time, to further enhance their proficiency and update their skills. It's a beautiful concept for assigning family practitioners at foreign bases where we have many families who need that type of care.

VADM Custis: In your travels as Inspector General, what's your measure of the misuse of family practice specialists, misuse based on a misconception of what family practice is all about?

CAPT Kee: During the limited time I've been in the position of Inspector General, I haven't been to the hospitals where there are many family practitioners.

I've seen 1 partially trained family practitioner. His only worry was that he might be stale when he returned from an isolated area; he was hoping for a period of refresher training in family practice, upon return to CONUS.

VADM Custis: Well, the additional remarks that I would offer would go like this: it seems to me that military medicine has, peculiarly, an excellent potential for building family practice. I don't doubt that we've got a long way to go. It will take some time to establish a significant volume of family practitioners, and there will be inevitable growing pains.

But it seems to me that the potential is there for developing an ideal family practice environment. I've heard General Patterson estimate, for example, that as many as 75% of the physicians in the Air Force tomorrow could well be family-practice graduates. Again, this could also be viewed as an excellent opportunity for the Uniformed Services University to excel.

One word of caution — don't overemphasize the limitation of the family practitioners' workload, because the same argument can be voiced by any specialist — that he can do a better job if he isn't rushed so much.

The final thought that I have is that somewhere down the road, in the civilian sector as well as in the military, we're going to have to give serious thought to the training of the emergency room specialist. But, I think our resources are going to have to be a little stronger to advance in that area.

In the interest of brevity, and because they have already been (See U.S. NAVY MEDICINE 64[6]:36-37, Dec 1974) or will be addressed elsewhere, no further review of the following reports is included here:

Primary Care — CAPT J.J. Gunning, MC, USN

Moonlighting — CAPT R. Milnes, MC, USN

Radiology Personnel Shortage — CAPT O. Crews, MC, USN

Personnel Management Planning — CAPT S. Mucha, MC, USN

Need for Social Workers — CAPT R. Steyn, MC, USN.—Ed.

"Impact of USUHS on Navy Medical Training Program" —

*CAPT James W. Lea, MC, USN:**

VADM Custis, gentlemen, it is apparent that a consensus has not been reached on many issues concerning the Uniformed Services University of the Health Sciences (USUHS), and that plans are not yet clearly formulated. But we would like to both offer and ask for assurance on several matters.

First, we would like to assure all training programs not in the Washington area, as well as those in Bethesda, that we do stand ready, willing, and able to accommodate federal medical students in whatever way you deem appropriate.

Second, we feel that the general naval medical training program must maintain close ties with the civilian medical training sector. Such liaison can give us academic credibility, in certain areas, that we sometimes cannot supply ourselves; it also provides an opportunity for those medical officers who are academically inclined to participate in the medical school, even if their specialty is not required at naval medical facilities located in Washington, D.C.

So, we in the outlying areas would like to request your assurance that we will not only be allowed to continue to develop our affiliations, but will also receive Bureau support in terms of personnel and resources, to maintain appropriate relationships with local institutions.

---

*Chairman, Department of Medicine, NAVREGMEDCEN Portsmouth, Va.

DISCUSSION

VADM Custis: I agree with everything you said, and would make a point of one more feature of the local school affiliation: it provides an unparalleled recruiting pool that is just not otherwise available.

The final outcome of this problem is not going to occur on my watch, so it would be inappropriate if I were to respond to your request for an absolute guarantee about anything. It is more realistic to say that this is a potential opportunity for *you,* since the solution is more apt to occur on your watch. I can only say that as long as I am around and have any influence as a member of the USUHS Board of Regents, I'll continue to press home this issue.

Mel, you're living with this every day. Do you want to comment?

CAPT Museles: Well, I think we have to maintain our civilian affiliations until the USUHS becomes much more nationally recognized than it will be in the next few years. We will obviously have to start slowly, and build. I think I can see the day, 5 to 10 years from now, when we may have this kind of recognition — where our arms may extend to all of our affiliated hospitals, and all of our people can have the recognition they deserve under our own umbrella. I think this will come but, as VADM Custis has said, it's probably not going to happen on our watch. I think this is a long-term affair. So it is essential that you participate in your respective, local, civilian institutions. Be sure that you pursue invitations to teach in civilian universities, to participate in their curriculum development and departmental decisions. Unless we have accomplished that, I'm not sure we're really integrated with civilian medicine.

Now you may already be able to do that at NAVREGMEDCEN Portsmouth, Va., where you are the primary teaching institution. But obviously the outstanding recognition that Portsmouth (and perhaps also our medical center in San Diego) commands, in the local community, may not necessarily hold true for our other institutions. At Portsmouth, Va., you probably are invited to participate in departmental decisions, but I'm not sure that we do so here in the Washington area. I would certainly encourage continuation of your civilian academic relationships.

CAPT Cox: The interface with the USUHS and the graduate training programs will be along the lines of the structure that I outlined in my presentation on 18 Sep 1974. (See *U.S. Navy Medicine* 65[1]:5-9, Jan 1975.) And to paraphrase what VADM Custis has said, as long as I am around I will continue to foster strong relationships with local universities. I can't conceive that the relationship between NAVREGMEDCEN Oakland and the University of California at San Francisco will be lost, or that the relationship between NAVREGMEDCEN Philadelphia and Jefferson Medical College would be lost because of an affiliation with an institution that is located anywhere from 126 to 2500 miles away. That's just not real planning.

VADM Custis: I realize that none of us can foresee all of the new situations that might evolve by 1980, or later. For example, it's quite possible (and the law provides for it) that by the 1980s there may be a 2nd and 3rd USUHS located elsewhere in the country, which would certainly change the situation. I suppose I tend to contradict Mel a little bit in what he has just said, but I don't think that there should ever be an exclusive umbrella under a uniformed services university.

Now, mind you, I'm talking about undergraduate training; graduate training is something else. I think you all ought to go slowly as you develop your affiliations with universities. I'm thinking particularly about new affiliations, such as those at Great Lakes or Portsmouth, Va., where you will be pressured to affiliate with graduate school effort.

In the very near future, our scholarship programs will be providing us with more candidates than we can accommodate in our graduate training programs. And we will probably all agree that these candidates must have the first choice. We've got to train our own before we train others.

For the undergraduate effort, I think there should always be local affiliation in addition to the USUHS umbrella. But for the graduate effort, we ought to be very careful about committing ourselves to providing residency training for civilian physicians. We have done this excessively for years: we've trained many people only to lose them to the civilian sector.

CAPT Brown: I am personally very pleased to see operational representatives at this SAC Conference. Support of the operating forces is our prime mission.

Now it's my pleasure to present RADM Robert C. Laning, MC, USN, CINCPAC Fleet Surgeon, who will bring us up to date on operational medicine.

"Operational Medicine" —
*RADM Robert C. Laning, MC, USN:**

VADM Custis and fellow doctors. It is gratifying to us of the operational forces to note that, although most of the people at this conference represent "ivory tower" Navy medicine, you also perceive why the Navy

*CINCPACFLT Surgeon

Medical Department exists — to support the operational forces. And we thank you very much for including us in your conference.

The traditional source of flight surgeons, submarine medical officers, deep sea diving medical specialists, and other military medical specialists has been the periodic influx of young general medical officers (GMOs), fresh from internship or new to the Navy. They choose these specialties for a variety of reasons: a desire for a new and different experience, a lack of any firm career plan after internship, a wish to practice medicine before undertaking the rigors of specialty training, attractive incentive pay, or a genuine interest in one of these specialties.

As internships fade away and medical schools continue to stress early specialization, young physicians may have even less contact with military medical specialties; the number of physicians entering these fields will diminish, as it already has. Contact with military specialties will be reinstituted in the distant future for students of the USUHS, and to a limited degree for the scholarship students. But in the meantime, we still have a pressing need for this type of medical talent.

Considered as a whole, the Navy Medical Department is a health maintenance organization. Our daily job is not only to treat the sick and wounded but, perhaps more important, to prevent accidents and illness.

Navy personnel who live under physically stressful conditions — aboard certain ships, in advance construction battalions on faraway islands, as overworked flight-deck crews, or as exhausted watch-standers in firerooms — need help to improve their environment. For example, a sailor who sleeps in a comfortable compartment — temperate climate, uncrowded, and quiet — will be able to perform his duties more effectively.

It is our job to recommend improved habitability, sanitation, and safety measures. It is up to us to prevent heat stroke and heat exhaustion, auditory injury to the gunner's mate, eye injuries from the grinding wheel, traumatic amputations on the flight decks, malaria, schistosomiasis, dengue, and food poisoning. All Navy doctors must be knowledgeable about such diseases and injuries, and be willing to participate in prevention, as well as treatment of ills and problems.

Another reason for our existence is to profit in the future from the lessons we have learned in the past, about the care of war wounds and the techniques of contingency deployment. It sometimes seems as if the basic principles of mass-casualty triage, casualty regulation, and evacuation must be relearned with every war. Certainly there must be a way to preserve and build upon our experiences, so we need not begin anew with each contingency. We must provide active and periodic training for our surgical and other augmentation teams. Team members must be thoroughly familiar with the most advanced and efficient surgical techniques.

VADM Custis, my preamble leads up to these questions: Should every Navy physician be required to have 2 specialties, 1 clinical and 1 military? Should every Navy physician receive structured training to prepare him or her for a military or occupational specialty after clinical residency is completed? Or can we require that a segment of the physician's clinical specialty training be devoted to indoctrination in shipboard, field, occupational, and other global medical subjects, along with familiarity with fleet and marine organization? If so, can we guarantee that this indoctrination will not jeopardize accreditation of the training program? These are our major issues.

DISCUSSION

VADM Custis: The USUHS Board of Regents is also talking along this same line, and military operational medicine will be introduced into the curriculum of the USUHS, along with other medical subjects.

As to the question, "Should everyone have 2 specialties?" I think probably that's not necessary; in fact, we probably will never have the resources for that luxury. It is probably more in line with what we hope to accomplish, to expect that Navy physicians will hold a variety of degrees but will also have meaningful exposure to operational medicine, regardless of their medical specialty.

Charlie, have you had a chance to outline some of our early thinking in terms of developing a new specialty of operational medicine?

RADM Waite: Yes, sir.

VADM Custis: I think that idea has a lot of potential. It's a beautiful example of innovative thinking in terms of training for military medicine.

I remember well that when I was a fellow staff officer with CAPT Hugh O. DeFries at Bethesda, Hugh proposed that we split the Medical Corps into 2 parts — a hospital-oriented corps, and an operational-oriented corps. Hugh, have you changed your mind?

CAPT DeFries: Having been aboard ship before, not as a doctor but as a line officer, I do have some reservations about meeting the needs of the fleet with a part-time medical staff. I think that the attitude of the line officers and the ship's crew depends largely upon how closely the physician identifies with the ship and its mission, and how well the physician gets to know the idiosyncracies of the ship's personnel.

And there is some question in my mind as to whether, during a period of 90 days, a medical officer

who has not been primarily oriented toward shipboard duty can really assume the role. A doctor aboard ship can be a hero to the crew, or on the other hand, he can make a very poor impression for the Medical Corps. I personally think that when a medical officer goes aboard a ship for a short period of time, there is some danger he may be viewed in the latter role, that he may not do the Medical Corps a great service. This would not necessarily be his own fault, but simply because he would not be identified as a member of the crew. He would be looked upon as a part-time person, especially on deployments lasting more than 90 days, when one medical officer leaves the ship and another comes in to replace him in the middle of the deployment.

That's why I had some reservations about a health care delivery system that would meet the needs of the fleet by rotating physicians from a medical pool. But if that's the only way to do it, then it has to be done that way.

VADM Custis: I've got a very warm spot in my heart for Hugh DeFries, who is one of the most dedicated, motivated, and Navy-oriented doctors we have. He is something of a maverick, and often a dissenter, but his dissension is always based on solid thought.

I can only say, Hugh, that you pays your money and takes your choice; and as far as I am concerned, the choice that represents the consensus of the Navy leadership today is that we cannot afford 2 Navy Medical Corps. We're in this together, and we're going to come out of it, hopefully, better oriented toward providing complete health care with a staff that appreciates the nature of our primary mission.

CAPT Lowery: A few years ago, during the astronaut recovery programs, people from NASA came aboard ship. They had been previously indoctrinated, and my own personal experience with these people proved very satisfying. They carried out their mission, and then left. This medical pool concept might follow a similar pattern.

CAPT Brown: Any further discussion?

CAPT Wilson: I'd like to discuss the social worker's function, and the need of the Navy. In the civilian community there are welfare agencies and charities supported by donations.

I think that we ought to speak to our main Navy community through Navy Relief, and ask them for help. We donate to this society frequently, and I believe they will help us if they are asked to do so.

VADM Custis: That sounds like an excellent idea. You're thinking particularly about social workers?

CAPT Wilson: Yes, sir.

RADM Laning: Right now, Navy Relief nurses are being evaluated, with the idea of possibly decreasing their numbers as a cost-saving measure.

CAPT Mullins: I believe that our people have paid their price and are entitled to more than charity. And Navy Relief connotes charity, not social service.

Some people have spent 20 years in the Navy, some offer up their lives, and some have lost limbs. These people are entitled to first class social service. I don't think we ought to look to charitable organizations for social work.

VADM Custis: Maybe there's room for both.

RADM Jacoby: During the past few years Navy Relief has done very badly in obtaining contributions. Last year their deficit was one half of a million dollars, so we may think that Navy Relief has a lot of money and could possibly support a social service program like this, but they may be running into difficulty as their assets decrease.

CAPT Strange: I think there is a lack of understanding on the part of our Navy medical community about what a medical staff should do. We're not talking about anything having to do with welfare and helping people out financially, which maybe a social worker can do very effectively. I'm all for using Navy Relief. But I really don't feel that that is the proper way to meet the medical needs of the Navy family.

CAPT McMahon: I'd like to discuss a different subject: episodic crisis care. Family practitioners are just as willing to provide crisis care as any other specialist, but they don't want more than their fair share. I think that, to the extent that the gynecologists, pediatricians, interns, and surgeons provide such care, in rotation, so will the family practitioner.

Closing Summation —

*CAPT J. William Cox, MC, USN:**

VADM Custis, gentlemen, those of you who have known me over the years know that I'm rarely at a loss for words. On the other hand, trying to summarize this Sixth SAC Conference and to set the tone for next year's conference is just about the most difficult assignment that I've had. However, I must say this was an outstanding meeting, organized and executed by CAPT Steve Barchet and by CAPT Bill McDermott; and the superb participation of so many extremely busy flag officers from the Washington community has certainly been most edifying.

VADM Custis and I went to the first workshop on graduate medical education convened at the School of Health Care Administration in 1967. After we

*CO, Naval Health Sciences Education and Training Command, NNMC, Bethesda, Md.

returned to Philadelphia, I watched him help reorganize the Graduate Training Committee, and the Executive Council while he was director of professional services; he was able to inspire everyone around him with his energy and enthusiasm. He continued these efforts as CO at Bethesda, and he has not slowed down since becoming the Navy Surgeon General.

The point that I am making is that each year these conferences have gotten progressively better. I can't think of a single substantive issue that has not been discussed with thoughtful consideration, deep concern, and with positive recommendations for total or partial solutions.

The cooperation and the personal investment made by each of you, year in and year out, and the maturity and sophistication you bring to bear on our very large but common problems, is most heartening and inspiring.

I would like to see the format that was followed this year carried on again next year, and would appreciate receiving your recommendations for modifications and improvements. Thank you.

CONCLUSION

CAPT Barchet: Now it's my turn to wind up this meeting. The value of this conference will be reflected in your performance over the next year. I do believe that the objectives enumerated by RADM Rupnik at the beginning of the proceedings have been met, and I thank you for your attention and participation.

One final remark. For those of you who must fulfill relicensure requirements, this meeting satisfies 12 hours of the Category 1 requirement, Continuing Medical Education.

Gentlemen, the meeting is adjourned.

CNO APPROVES NAVY'S 200TH BIRTHDAY THEME

The theme, "Building on a Proud Tradition," has been approved by the Chief of Naval Operations for use during 1975 in connection with the observance of the Navy's 200th Anniversary.

The theme will carry over into the national bicentennial in 1976. Selection of this theme was based on the fact that the proud traditions formed in the Navy's past 200 years form a foundation on which we are now building a new Navy.

In addition, the words "Opportunity-Challenge-Service" were selected to emphasize the theme occasionally during the year.—*NAVNEWS,* 29 Nov 1974.

In 1775, our forefathers, who had crossed the ocean in search of freedom, banded together as 13 colonies and established the United States Navy. From this beginning, the Navy is linked in spirit and tradition to each of the 50 states that now form our Union.

The 13 stars of the Navy's 200th Birthday insignia represent the 13 original colonies whose Continental Congress formed the Navy. Fifty links on the chain represent the modern states; and the anchor recalls the strength and bravery of mankind inspired by the sea.

Outpatient Appointment Noncompliance: A Modification of Positive Health Behavior

By LT Kenneth A. Rethmeier, MSC, USN*
Naval Regional Medical Center
Long Beach, California 90801

Introduction and Study Objectives

With the conversion of outpatient health-service facilities to a totally centralized appointment system, a variety of adverse effects has surfaced as a spin-off from the central model concept. Generally, all forms of clinical settings are beset with appointment cancellations by patients, who for some reason determine that their scheduled appointment conflicts with daily-activity goals, and who resolve the conflict by canceling their appointment. While patients who cancel appointments create an additional workload for the central appointment desk, the vast majority are rescheduled and any subsequent impairment in the continuity of follow-up health services is usually prevented. Greater significance is attached to that group of patients who simply do not appear for scheduled appointments, without seeking reappointment at a more convenient time.

Applicable to health-care behavior, a deterioration in the motivating forces of the model of cognitive dissonance warrants investigation and analysis. The relative accessibility of health care for military beneficiaries, and the overriding inducements for seeking medical care when necessary, provide a favorable setting in which to study this problem. It is difficult to construct criteria for future behavioral predictability because patterns for seeking health care are hard to define and identify. Some insight into the problem may be gained, however, by examining perceptions of those patients who fall within this sociologic study population.

Available data suggest that the appointment-failure phenomenon affects the entire spectrum of the health-care-delivery system, with some polarization of increased failure rates amongst highly organized group practices.[1] It has been intimated that highly organized group practices, or large outpatient complexes may lead to a breakdown in the patient-physician relationship.[2] Dehumanizing and rigid patient-physician roles tend to adversely affect the medical care provided, as perceived by the patient. I intend to address the impact of the value system which evolves, and will hopefully expose intercedent variables that alter positive health-behavior patterns.

Before exploring the underlying variables and rationale which influence patient social-behavior patterns, it is appropriate to consider why people seek medical care. After establishing a frame of reference for positive health behavior, a model can be posited and applied for analysis, to generate data on abnormal behavior. A theoretical model has been presented by Rosenstock, who studied the motivating forces which induce an individual to seek help in times of medical need.[3] Man's awareness of this balance of health, and the ability to pursue a course of positive action which will reduce or eliminate perceived alterations in that balance, are noted by Rosenstock. Emphasis is placed on 3 levels of analysis, and the special characteristics ascribed to each level are worth noting:

- First, people react to cuing devices which signal

*M.S.P.H. (Master of Science in Public Health)

The opinions or assertions contained herein are those of the author and are not to be construed as official, or necessarily reflecting the views of the Navy Department or the naval service at large.

their susceptibility to disease entities, and which are perceived as threats to their well-being. For example, popular commercials and public announcements portray the smoker as having a greater chance of acquiring cancer of the lung, compared to the individual who resists this temptation. In part, such messages represent an organized effort to reveal the smoker as a person at high risk to contract the dreaded disease; but the concept that the act of smoking is inconsistent with the balance of society's norms and values is also inculcated. As applied to the situation of health-seeking behavioral patterns, the patient is cued by some method to act in a way that will resolve this conflict of mind. In other words, the patient has been stimulated in a manner which induces perception of a personal need to act.

● The 2nd level in the tripartite theory of health behavior is the impact of the severity of the disease. Rosenstock believes this aspect of the model bears a dichotomy of common influence involving the amount of internal emotional turmoil created by the health problem, coupled with the degree of social adaptation which an individual must acquire in daily life activities, given the adverse outcome. If the 2 factors are viewed as divergent, without acknowledging this coupling effect, one may fail to recognize their potential impact on the adaptive role assumed by patients. In this respect, the cognitive influence has been effectively hidden by one variable overriding the other.

● The last 2 influences on the model are the perceived benefits from, and barriers to taking some course of action to resolve the inner conflict or readiness to act, stimulated by the susceptibility and severity of the disease entity. The individual faced with relatively high benefits, as compared to the barriers, would logically pursue the necessary course of action for obtaining medical consultation. If the patient perceives many barriers, however, these obstacles may reduce his readiness to act and result in greater conflict.

In review, the Rosenstock model of health-behavior patterns is an application of Leon Festinger's theory of cognitive dissonance.[3,4] It is a proliferation of the conscious and systematic ordering mechanism, motivating the individual to alter behavior in order to reduce or eliminate eminent conflict. The model presents functional and dynamic characteristics which demonstrate that periodic and intercedent alternatives or influences, interjected into the system, may greatly alter the course of predicted human behavior. The impact or success of these intercedent variables depends upon their relationship to the model, and their importance as perceived by the patient. The fact that man lives in an orderly existence provides sufficient basis to define, identify, and correlate various alternatives of normal behavior patterns, upon which to test and apply further model modifications.

While Rosenstock's theory is based upon, and has only been applied to symptom-free populations, its basic concepts and implications are applicable to this study. Primarily, the fact that a patient has perceived a readiness to act to resolve a disease potential, regardless of its origin, leads to the hypothesis that appointment failures have an analogous relationship to Rosenstock's theory of positive health-seeking behavior patterns. In the short run, patients signal an inability to follow an established pattern of conflict resolution, culminating in a rejection of their physician's recommendations and detracting from a sound patient-physician relationship. Eventually the rejection of a course of positive health behavior may result in future belief alterations, and may comparatively reduce the subsequent perceived readiness to act in the same set of circumstances.[3]

The expressed objectives of this study are as follows:

1) To identify and determine the extent of appointment noncomplicance within the outpatient setting, as an aggregate effect on 3 medical facilities.

2) To develop a sociologic and attitudinal survey of a patient study population which fails to keep scheduled medical appointments during a selected period of time.

3) To present the findings in a logical progression of intuitive analysis which will not only illuminate the central concept, but will provide some helpful insight.

Literature Review

A review of the information compiled and presented by others, who have studied appointment failures in a variety of settings, indicates that such a problem exists in any modality of health-care services. The literature also supports the proposition that highly structured clinic-oriented systems tend to produce higher rates of appointment failures, compared to the private physician's office. In her review of 6 studies, Motil[1] found that noncompliance rates varied from 10.0% to 27.5% of the total number of scheduled appointments. During a study at the Western Pennsylvania Hospital the noncompliance rate was reported at 48%, a significantly high rate which indicates a severe problem within the organization and structure of that particular health-delivery system. Generally, the following items are most commonly identified by patients as key factors which inhibit compliance with scheduled appointments:

1) No intention of ever keeping appointment.

2) Forgot, or presumably indifferent (38% in 1 study).

3) Family-planned activities.

4) Patients not followed by the same clinic physician (rate of noncompliance 3 times greater).

5) Inadequate communication between all levels of the clinic staff and the patient.

6) Related to ethnic origin and socio-economic levels of patients in 1 study.

7) Interpersonal and family relationships.

8) Occupational obligations, and inability to arrange for transportation or babysitters.

In 1 study an excessive number of patients, who were seen and treated in emergency rooms, subsequently failed to keep scheduled appointments. A review of their outpatient records revealed that many of these patients had been treated for relatively minor medical problems. While this observation does not necessarily confirm allegations of improper utilization of emergency-room services, it does suggest that patient-physician relationships may play a major role in affecting motivational influences.[1] If highly organized outpatient centers create a situation that leads to higher rates of appointment failures, inability to establish normal trust relationships between patients and physicians could result. Patients may seek other modalities (for example, the emergency room) to satisfy their needs. Physicians who fail to indicate the importance of follow-up treatment, even in the absence of overt symptoms, create an indifference in the patient who perceives no further need for physician contact. In the 1st instance, the overriding need for health-care services substantiates the requirement for creating new methods of improving physician-patient relationships. Patients' perception of their own symptoms should be explored in an effort to evaluate the presumed need for follow-up care.[1]

Study Design and Questionnaire

A questionnaire was developed, incorporating those items most frequently cited by patients as reasons for failing to keep appointments, on the basis of reported previous investigations. The questionnaire was also designed to obtain information from which a profile might be constructed, portraying the average patient who failed to keep scheduled appointments during the study period.

The study population consisted of all those patients who failed to meet scheduled appointments during a 6-week period at 3 outpatient facilities of the Naval Regional Medical Center (NRMC), Long Beach, Calif. Each patient within this group received a questionnaire to complete and return. Accompanying each questionnaire was a cover letter, explaining the intent of the study and soliciting assistance.

Findings and Interpretation

The total number of visits to each medical facility, the number of appointments scheduled, the frequency of noncompliance, and the overall appointment-failure rate during the study period were compiled for each of the 3 facilities (See Table 1). Of particular importance

TABLE 1

FREQUENCY DISTRIBUTION OF TOTAL OUTPATIENT VISITS, SCHEDULED APPOINTMENTS, AND APPOINTMENT FAILURES AT THE NAVAL REGIONAL MEDICAL CENTER COMPLEX AND NRMC BRANCH DISPENSARIES (TERMINAL ISLAND AND EL TORO), 1 NOV–14 DEC 1973

Outpatient Facility	*Outpatient Visits*	*Appointments Scheduled*	*Appointment Failures*	*Appointment Failure Rates*
NRMC Complex	33,634	13,174	633	4%
Branch Dispensary, Terminal Island	6,893	4,695	368	8%
Branch Dispensary, El Toro	18,825	4,968	264	5%
Totals:	59,352	28,837	1,265	
Average appointment-failure rate for all facilities: 4.4%				

is the inverse relationship of appointment failures to the number of appointments scheduled, comparing the NRMC complex and Terminal Island Branch Dispensary. Based on the information published in other studies, one would not only anticipate a proportionately higher percentage of appointment failures as the number of scheduled appointments increases, but the incidence of appointment failures should also rise as the complexity of the health-care system increases. In general, however, the noncompliance rate for this study is less than one half of the lowest failure rate reported in the literature, and this should be considered if any future expansion of the appointment system is contemplated.

Diverse reasons for failing to meet appointments were reported by patients; no demonstrable trend towards any specific response was identified. Of the 476 patients who responded to the item on the questionnaire, 9.7% reported that they either overslept or forgot about their appointment; 2.7% indicated that they sought care elsewhere; 8.0% said they did not feel they needed that appointment; 17.2% attributed their appointment failure to an emergency or family illness; 13.7% thought their appointment was scheduled for some other time; 12.8% reported they were unable to arrange for adequate transportation, or were unable to locate a babysitter; and 35.9% reported some other reason, usually obligations at work.

Although the responses were well spread across most of the choices, none of the respondents blamed failure to be scheduled with the same physician for their noncompliance. The latter condition assumes added meaning when one considers that large multiple-physician practices usually result in patients being followed for the same problem by more than one physician, theoretically increasing the opportunity for inadequate patient-physician communication.

No clear cumulative evidence nor trends emerge, which would implicate any specific-function portion of the Rosenstock model as a major modifying factor effecting alteration in health-seeking behavior patterns. An acceptable course of positive action, designed to limit further the number of future appointment failures, fails to emerge in the face of this wide diversification of responses.

Demographic information was also compiled for each respondent, in order to formulate a patient profile for correlative analysis. Of the total number of patients who reported their ages (*N = 489), nearly 68% were 30 years of age or younger, and 20% were under 13 years of age. Since children are generally considered unable to influence health-seeking patterns solely by themselves, data for the 13-year, or younger age group more accurately reflect parental behavioral responses to their children's needs. More comprehensive investigation involving this subgroup is needed, to examine how parents decide whether to keep appointments scheduled for their children, and whether these patterns depart significantly from behavioral responses to their own personal needs under similar circumstances. Obviously cuing devices exhibited by children are subject to some latitude of interpretation, and may not accurately reflect a child's anticipations or needs for follow-up care, especially in the absence of definitive symptoms.

Apparently the attitudes expressed by the study cohort do not support any theory that appointment noncompliance is either a function, or a product of the patient's satisfaction with the care previously received. Almost 40% of those responding (N = 483) were completely satisfied with the services rendered to them. An additional 44% indicated their general satisfaction, while only 17% were either generally or completely dissatisfied with the services available to them.

Approximately 41% of the respondents (N = 484) indicated they had utilized the services of a physician 5 times or more each year, over the past 2 years. The remaining 59% were nearly equally divided between usage rates of 1 to 2 times a year, or 3 to 4 times a year.

Further scrutiny of the patients in the noncompliance group reveals that nearly 62% of those responding (N = 399) were scheduled for return appointments. This denotes that the breakdown in the health-care-seeking behavior model occurred at some point after a physician's care had been obtained, and some medical regimen had been initiated. Although no definitive data is recorded to validate this supposition, a possible explanation for fragmented positive behavior patterns is patient indifference toward advice offered by the doctor for follow-up appointments.

A common criticism voiced by patients who routinely utilize large outpatient facilities is the unreasonable length of time required to schedule an appointment with a physician. However, the frequency and percentile distribution reflected in Table 2 does not

TABLE 2

HOW LONG WOULD YOU SAY YOU HAVE WAITED SINCE YOU ORIGINALLY SCHEDULED THIS APPOINTMENT?				
1 week or less	*2-3 weeks*	*4-5 weeks*	*6 weeks or more*	*Total responding*
170 (40.0%)	177 (41.5%)	52 (12.2%)	27 (6.3%)	426

*N = number

support this complaint. On the contrary, the vast majority of those responding reported that they had waited less than 3 weeks for the appointments which they failed to keep. This time factor is not considered to be unreasonable.

At the outset of the study, patients' perceptions of their symptoms were identified as potential key factors in the functional modification of behavior associated with appointment noncompliance rates. Theoretically, the same stimuli which initially motivated the health-seeking behavior, i.e., the overt or implicit perception of symptoms, should continue to influence a patient's decision to return for follow-up care if those same symptoms should continue, to any perceptible extent. A review of patients' perceptions about their symptoms, as expressed by the respondents, reveals that 16% of those responding (N = 414) experienced disappearance of their symptoms; 24% said their symptoms had improved. However, nearly 52% said that their symptoms were the same, and 8% reported their symptoms had become worse; since these represent the majority of respondents, it is posited they have either rejected some portion of the delivery system, or have developed some degree of indifference to the follow-up care recommended by their physician. An application of the X^2 test to a matrix of grouped data on patient satisfaction, in relation to the perception of their symptoms, revealed no statistically significant degree of association. However, it should be noted that a pattern of association did emerge; patients who were generally satisfied with the care received also reported greater symptomatic improvement than could reasonably be anticipated, based on the existing information. Likewise, those who felt a general degree of dissatisfaction reported that their symptoms had worsened at a higher-than-expected rate.

At face value, the previous consideration of information collected from the respondents has not been dominated by any specific concept; there is no concrete, substantive data which would clearly indict some factor influencing health-seeking behavior patterns. Likewise, a cursory review of the responses offered by noncompliers, their perceptions of the adequacy of information provided them by physicians, uncovers similarities in analysis with data related to patient satisfaction with the delivery system (See Table 3). Empirically, the data presented in Table 3 indicate that a patient's perception of the information provided by physicians is not a functional component of the decision-making process for health-care behavior, since the vast majority report general or complete agreement with the supposition.

Pairing a series of variables to isolate possible underlying associations not otherwise illustrated, a series of X^2 calculations were derived. An analysis of the resultant data from the tests of X^2 revealed statistically significant associations in 2 major categories, involving 2 aspects of the patient-physician role as it applies to the Rosenstock model. First, consistent patterns of association are evidenced by the data presented in

TABLE 3

MOST DOCTORS USUALLY GIVE PATIENTS ENOUGH INFORMATION ABOUT THEIR ILLNESSES. DO YOU AGREE?				
Yes, completely agree	*Yes, generally agree*	*No, generally disagree*	*No, completely disagree*	*Total responding*
129 (28.7%)	215 (47.8%)	73 (16.2%)	33 (7.3%)	450

Table 4, correlating patient satisfaction and the perceived adequacy of information received from physicians about a patient's illness. Secondly, the perception of an individual's symptoms apparently has a direct relationship to his attitudes toward the physician's ability to communicate with patients. (See Table 5.) It is suggested that the significance of association can be considered a direct function of the emergence of the patient-physician relationship. In other words, the capacity of the patients and physicians to communicate, the degree to which they can develop a trustful and meaningful relationship during disease episodes, can vastly alter a patient's view of the benefits and obstacles of the health-care system. In the absence of this dynamic force there is a deterioration in the functional process of the healing art, for which there is no adequate substitute.

SUMMARY REMARKS

Under existing behavioral roles established by our society, it is initially the patient's responsibility to recognize the need for medical consultation, and then seek entrance into the health-care-delivery system. Once that contact has been initiated, the responsibility then shifts to a shared relationship between the patient, the physician, and the organized system, for

TABLE 4

RELATIONSHIP BETWEEN ADEQUACY OF COMMUNICATION WITH PHYSICIANS AND SATISFACTION WITH MEDICAL SERVICES, BASED ON RESPONDENT PERCEPTIONS

Most doctors usually give patients enough information about their illnesses. Do you agree?	*PATIENT SATISFACTION WITH MEDICAL SERVICES*				*Total responding*
	Yes, completely satisfied	*Yes, generally satisfied*	*No, generally dissatisfied*	*No, completely dissatisfied*	
Yes, completely agree	92	29	3	2	126
Yes, generally agree	64	119	24	4	211
No, generally disagree	12	40	17	4	73
No, completely disagree	0	9	18	6	33
Totals:	168	197	63	16	443
Combining columns 1 and 2; and, 3 and 4: $X^2 = 95.093$, df = 3^o, $P < 0.005$.					

TABLE 5

RELATIONSHIP BETWEEN STATUS OF SYMPTOMS AND ADEQUACY OF COMMUNICATION WITH PHYSICIANS, BASED ON RESPONDENT PERCEPTIONS

Although you failed to keep your appointment with the physician, what is the current status of your symptoms?	*MOST DOCTORS USUALLY TELL PATIENTS ENOUGH ABOUT THEIR ILLNESSES. DO YOU AGREE?*				*Total responding*
	Yes, completely agree	*Yes, generally agree*	*No, generally disagree*	*No, completely disagree*	
They are completely gone.	21	53	9	3	86
They have improved.	28	47	16	8	99
They are about the same.	53	107	36	15	211
They are worse now.	5	9	11	8	33
Totals:	107	216	72	34	429
Combining columns 1 and 2; and, 3 and 4: $X^2 = 24.3588$, df = 3^o, $P < 0.005$.					

maintaining sufficient stimulation to continue follow-up care.

The primary aim of this study has been to identify and present the collective attitudes expressed by patients who have disrupted their own health-seeking behavior patterns, by failing to keep scheduled appointments.

From this examination, a better understanding of human behavior associated with the sick role should emerge. Hopefully an increased awareness of health-care behavior may lead to improved communication, and diminished fragmentation of personal health services.

REFERENCES

1. Motil KJ: Broken appointments in the pediatric outpatient department — the Western Pennsylvania Hospital, July 1-July 31, 1970. *The Woman Physician* 26:244-250, 1971.

2. Freidson E: *Patients' Views of Medical Practice — A Study of Subscribers to a Prepaid Medical Plan in the Bronx,* New York, Russell Sage Foundation, 1961, pp 57-68.

3. Rosenstock IM: Why people use health serivces, in *Health Services Research*, D Mainland ed, Milbank Memorial Fund, 1967, pp 94-124.

4. Festinger L: Cognitive dissonance. *Scientific American* 207:93-102, 1962.

DR. FELIX HONORED

"You can only talk about that which you know and love," says Robert Felix, M.D., former assistant Surgeon General of the U.S. Public Health Service, who was honored recently for his outstanding support of the Navy Medical Department. Some 10% of the 1200 physicians who trained at St. Louis University School of Medicine while Dr. Felix was dean (1964-1974) were motivated to enter Navy medical careers.—PAO, Navy Recruiting District, St. Louis, Mo.

LOVE TALK.—CAPT Matthias Backer, MC, USNR-R (left) presents Robert Felix, M.D., with a letter of recognition on behalf of VADM D.L. Custis, MC, USN.

Renal Failure with Cystic Disease

A Differential Diagnosis

By CDR J.D. Wallin, MC, USN*
and
LCDR M.R. Kelly, MC, USNR**

The presentation of patients with advanced renal failure and no prior history of renal disease is not unusual, despite increased awareness and interest in routine health-maintenance care. In treating patients with uremia of obscure and uncertain etiology, there is a critical need to identify correctable causes of renal failure; this usually devolves to a determination of renal size, and demonstration of patency of the lower urinary tract. Occasionally arteriography or renal biopsy is required.

An illustrative case of a middle-aged man with far-advanced renal failure is herein presented, with the following features: noninvasive diagnostic procedures failed to demonstrate renal shadows, retrograde pyelography revealed a normal excursion of the calyceal system with some distortion, and, finally, evidence of cystic disease was established by arteriography. The evaluation of patients with far-advanced renal failure is discussed in detail, and the differential characteristics of cystic disease in the adult are considered.

Case Report

A 44-year-old male patient was admitted to the Naval Regional Medical Center, Oakland, Calif., on 25 Jan 1974 complaining of weakness, easy fatigability, and insomnia. He denied a prior history of renal disease, hypertension, or symptoms referable to the urinary system. Specifically he denied hematuria, flank pain, abdominal masses or tenderness, and dysuria. The patient had experienced a recent onset of shortness of breath on mild exertion, insomnia, and inability to concentrate, but denied any nausea, vomiting, or diarrhea. He had not been a large salt eater and had no polyuria, but did admit to nocturia, 3-4x. His father had died of hypertension. It was later revealed that both his father and paternal grandfather had died in uremia, both being older than 60 years of age.

Physical examination revealed a slender black male who was comfortable and alert. Vital signs included: blood pressure 180/120, pulse 100 with no paradoxicalness, and temperature 98.6° (F). The following findings were noted on physical examination: grade iii hypertensive retinopathy; pallor of the conjunctivae and oral mucosa; clear lung fields; and a grade iii to-and-fro pericardial friction rub. The abdomen was free of masses; specifically, the kidneys could not be palpated, and there was no tenderness. Grade ii pitting edema was present in both lower extremities. Laboratory study results included an hematocrit of 23 VPC; urinalysis disclosed trace proteinuria and numerous white blood cells, but no red blood cells, casts, or other abnormalities. Urine culture was sterile. Serum creatinine value was 24 mg/100 ml; blood urea nitrogen, 156 mg/100 ml; Na, 138 mEq/liter; K, 6.0 mEq/liter; Cl,

---

The opinions or assertions contained herein are those of the authors and are not to be construed as official, or as reflecting the views of the Navy Department or the naval service at large.

*Director, Clinical Investigation Center, Naval Regional Medical Center (NRMC), Oakland, California 94627.
**NRMC, Oakland, California 94627.

100 mEq/liter; and HCO_3, 15 mEq/liter. X-ray examination of the chest revealed mild bilateral prehilar infiltration, but no evidence of pericardial effusion was noted; no renal shadows were detected on flat-plate films of the abdomen.

Hospital Course

After the initial evaluation, the patient underwent peritoneal dialysis for 72 hours, at the conclusion of which he was clinically improved; repeat blood urea nitrogen determination was 60 mg/100 ml, and his pericardial friction rub was no longer audible. An infusion of Hypaque^R was then administered, and attempts were made to outline the renal margins by tomography. After this proved unsuccessful, retrograde pyelography was performed, which demonstrated bilateral pyelocalyceal systems measuring 12 cm and 11 cm, respectively, with moderate distortion. (See Figure 1.) Because of the probability of normal-size kidneys, and because one observer felt that there might be a mass at the lower pole of the right kidney, arteriography was performed on the following morning. (See Figure 2.) Bilateral small renal arteries were observed. The interlobar branches were not well seen, and no nephrogram phase was observed. The selective study of the right kidney is reproduced in Figures 3 and 4, demonstrating the renal artery, its interlobar branches, and a few arcuate vessels at the outer margin of the renal substance. Little distortion of the vascular architecture is observed, although the vessels are small. In the right panel, the nephrogram phase of the study shows numerous small, and a few larger, cysts. These seem to be entirely confined to the medulla; the cortex is not visualized.

Following this study, an arteriovenous shunt was inserted and the patient was placed on chronic hemodialysis. He is currently being trained for home hemodialysis.

DISCUSSION

In this particular patient, the initial point of interest was the inability to establish clearly the renal size and contour. Since chronic glomerulonephritis is the most common pathological entity leading to insidiously developing uremia, the finding of 2 small kidneys in such an individual would constitute a sufficient evaluation, thus obviating the need for further studies. In the case of the patient presented here, not only was the renal size uncertain, but the mere presence of 2 kidneys was in question. Successive studies included abdominal roentgenograms, infusion urography with tomography, and radiorenography. When these studies failed to demonstrate bilaterally small kidneys, retrograde pyelography was considered indicated despite well known, relative contraindications for the procedure in patients with renal failure. This study, reproduced as Figure 1, demonstrated bilateral calyceal systems of relatively normal dimensions, appearing only slightly distorted. Because no specific diagnosis was clearly established by this study, arteriography was performed the following day. The initial flush arteriogram (See Figure 2) demonstrated small renal arteries, but no nephrogram phase. The small arteries were felt to be compatible with the patient's demonstrated degree of renal function, but selective arteriography (Figures 3 and 4) was required to confirm the diagnosis of cystic disease.

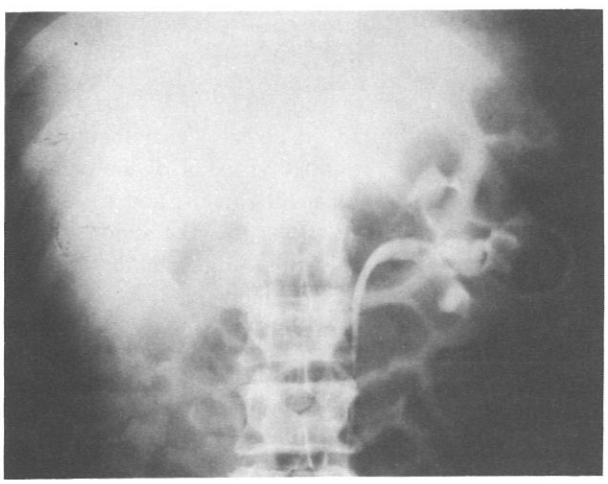


Figure 1.—Left retrograde pyelogram. The calyceal system is mildly distorted but of normal dimensions.

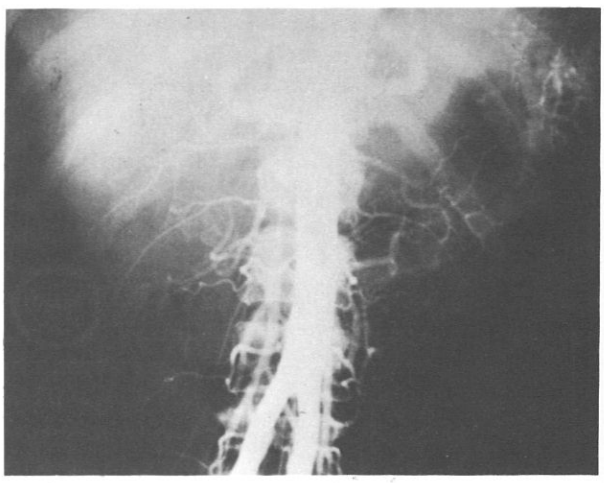


Figure 2.—Flush arteriogram. Small renal arteries are seen but no renal shadows can be appreciated.

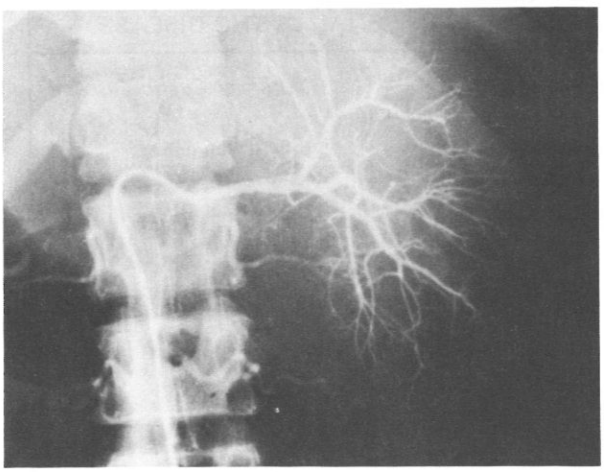


Figure 3.—Selective renal arteriogram. The interlobar architecture is well preserved; the vessels are small; no arcuate arteries or interlobular arteries are seen.

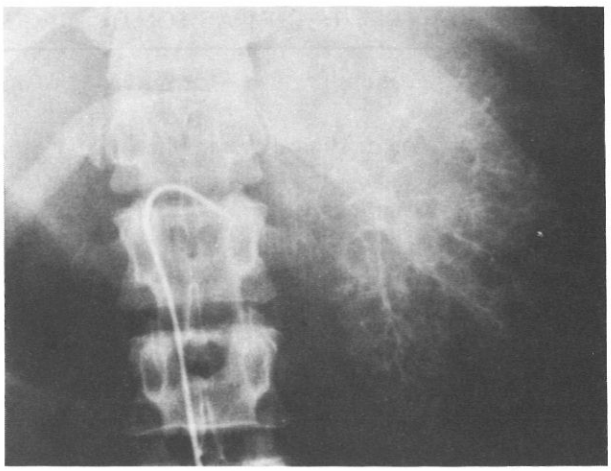


Figure 4.—Selective renal arteriogram, nephrogram phase. Large and small cysts are outlined.

The specific type of cystic disease presented by this patient requires definition. It is clear that Types I or II polycystic kidney disease, as described by Osathanondh and Potter[8] may be excluded from consideration, since these types are found exclusively in the newborn and are incompatible with life. According to this classification, Type III can be manifest in both infantile and adult types of polycystic disease. Most commonly seen in the adult form of the disease, normal kidney tissue is characteristically replaced by enlarging cysts which communicate with the lower urinary tract, resulting in enlarged palpable kidneys and, frequently, hematuria. In the present case, with its absence of symptoms — particularly hematuria and enlarged palpable kidneys — it is probable that a noncommunicating, small-cyst variety of polycystic disease is present.[4]

A second possibility is that of medullary cystic disease, also known as nephronophthisis.[2,3,7,10] This pathologic entity is well described by Strauss in an excellent review,[9] and features cysts that are confined to the medulla, the cortex being spared. Salt wasting is common in medullary cystic disease, renal enlargement is unusual, and renal failure usually occurs at an earlier age than is observed in polycystic disease.

Since these 2 clinicopathologic entities represent the major diagnostic possibilities in this case, a detailed comparison of the respective clinical, laboratory, and radiographic features is appropriate. Such a comparison is summarized in Table 1.

First, the age of clinical presentation in renal failure is addressed. The usual age at which patients with medullary cystic disease present advanced renal failure is in the 2nd or 3rd decade;[9] with adult onset polycystic disease, this occurs in the 5th and 6th decades.[4] However, there are numerous documentations of overlap between these groups, and the age at which advanced renal failure appears cannot be advanced as a strong discriminatory point, but only as a clue.

The mode of inheritance for both diseases appears to be autosomal dominant,[4,9] with the suggestion by Gardner[2] that in certain instances medullary cystic disease may be transmitted as a sex-linked dominant. In the case under consideration, either of these modes of inheritance could be applicable, and either polycystic kidney disease or medullary cystic disease might obtain. Regarding incidence, polycystic kidney disease is much more common than medullary cystic disease.

In addition to these 3 considerations, the following points in the history may help to distinguish between these 2 clinical entities (Table 1): a history of pain, either lumbar or renal-colic type; hematuria; urinary tract infections; or abdominal mass. These 4 symptoms are extremely common in adult polycystic disease, and uncommon in medullary cystic disease. It would be unusual, indeed, for a patient such as this, if he had adult onset polycystic disease, to develop far-advanced renal failure and present in uremia, without ever experiencing any of these symptoms. The present patient completed 20 years in the USAF, during which time he received periodic physical examinations with repeated blood pressure determinations, urinalyses, and abdominal examinations. At no time were any abnormalities detected. In addition, on careful questioning no history of pain could be elicited, and on careful physical examination no masses could be demonstrated. These features, together with the profound anemia, would tend to suggest a diagnosis of medullary cystic disease rather than adult polycystic disease. Anemia, however, is a

TABLE 1.—COMPARISON OF DIAGNOSTIC FEATURES IN RENAL CYSTIC DISEASE

Features	*Polycystic Kidney Disease*	*Medullary Cystic Disease*
1. Age of clinical presentation	5th, 6th decade	2nd, 3rd decade
2. Genetic inheritance	Autosomal dominant	Autosomal or sex-linked dominant
3. Incidence	Common	Unusual
4. Pain	Common	Uncommon
5. Hematuria	Common	Uncommon
6. Infection	Common	Uncommon
7. Abdominal mass	Common	Uncommon
8. Anemia	Uncommon	Almost invariable
9. Hypertension	Very common	Uncommon
10. Pyelogram	Often helpful	Usually not diagnostic
11. Arteriogram		
Kidney size	Usually enlarged	Normal size, or smaller
Position of cysts	Throughout kidney	Confined to medulla

regular accompaniment of advanced renal failure; its presence probably cannot be viewed as a specific argument against a diagnosis of polycystic kidney disease.

The final aspects of the present case, the radiographic findings, clearly illustrate the difficulty encountered in evaluating and differentiating renal cystic diseases in the far-advanced forms. Even with tomography, intravenous urography failed to establish a diagnosis, or even the presence of kidneys. Radiorenography was not helpful. In these 2 diagnostic techniques, it is necessary to employ substances which rely on either glomerular filtration, tubular secretion, or a combination of the two, in order to outline tissue. In cases such as this, both elements of renal function may be at such a low level that no contrast material, either radiographic or radioactive, is concentrated by the kidney. It is for this reason that so often a diagnosis cannot be made or even suspected, without resorting to invasive techniques such as retrograde pyelography (Figure 1), or arteriography. Both techniques were used in our patient, and selective renal arteriography was required to rule out medullary cystic disease and to establish a diagnosis of adult polycystic disease.[5]

In Figures 2 through 4, the flush arteriogram, the selective arteriogram, and the nephrogram phase of the latter injection are illustrated. The renal arteries are small, consistent with the given degree of renal function. The architecture of the vessels is preserved to the level of the arcuates, but no interlobular vessels are discerned and, in contrast to medullary cystic disease, no cortex is appreciated. (Cystic lesions are confined to the medulla in medullary cystic disease, and even under conditions of advanced renal failure, the cortex can be seen to be preserved.[6])

SUMMARY

An illustrative case of advanced renal failure due to adult polycystic kidney disease is presented. The difficulties occasionally encountered in making a diagnosis and in eliminating treatable forms of renal failure are discussed. Particular emphasis is placed on the discriminatory features of polycystic renal disease, as compared with the more unusual cystic disease that is confined to the renal medulla.

REFERENCES

1. Case Records of the Massachusetts General Hospital (Case 15 — 1970). N Engl J Med 282:799-806, 1970.

2. Gardner KD: Evolution of clinical signs in adult-onset cystic disease of the renal medulla. Ann Intern Med 74:55-61, 1971.

3. Giselson N, Heinegard D, Holmberg C-G, Lindberg L-G, Lindstedt E, Lindstedt G, and Schersten B: Renal medullary cystic disease or familial juvenile nephronophthisis: a renal tubular disease. Am J Med 48:174-184, 1970.

4. Hamburger, et al: *Nephrology,* vol II, Philadelphia, WB Saunders Co, pp 1070-1096, 1969.

5. Meaney TF, Corvalan JG: Angiographic diagnosis of polycystic renal disease. Cleve Clin Q 35:79-84, 1968.

6. Mena E, Bookstein JJ, McDonald FD, and Gikas PW: Angiographic findings in renal medullary cystic disease. Radiology 110:277-281, 1974.

7. Mongeau JG, Worthen HG: Nephronophthisis and medullary cystic disease. Am J Med 43:356-370, 1967.

8. Osathanondh V, Potter EL: Pathogenesis of polycystic kidneys. Arch Path 77:459, 1964.

9. Strauss MB: Clinical and pathological aspects of cystic disease of the renal medulla: an analysis of eighteen cases. Ann Intern Med 57:373-381, 1962.

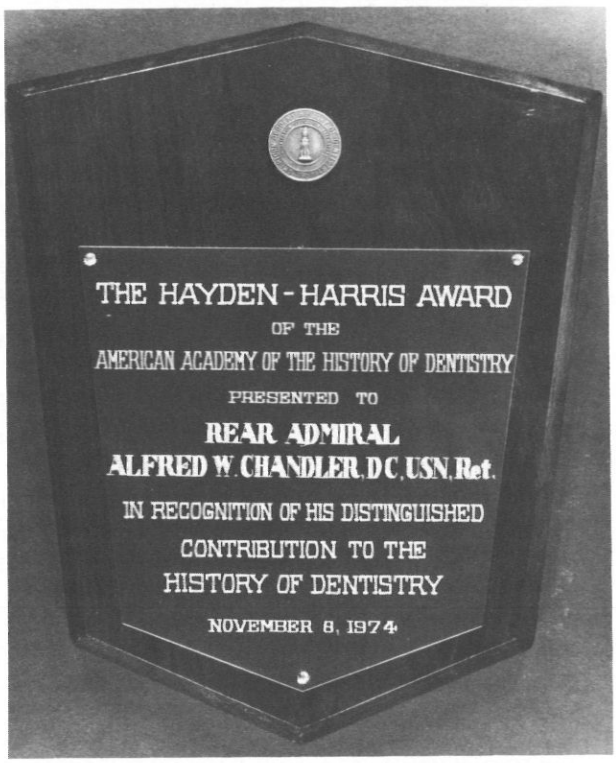
10. Strauss MB, Sommers SC: Medullary cystic disease and familial juvenile nephronophthisis: clinical and pathological identity. N Engl J Med 277:863-864, 1967.

HAYDEN-HARRIS AWARD TO RADM CHANDLER

RADM Alfred W. Chandler, DC, USN (Ret.), former assistant chief for dentistry and chief of the Dental Division, recently received the Hayden-Harris Award, sponsored by the American Academy of the History of Dentistry.

The Academy's highest award, this plaque commemorates the 2 dental leaders who established the first institutional school in the world for the study of dentistry. This historic event took place in Baltimore on 6 Mar 1840, when William Grason, Governor of Maryland, signed "an Act incorporating the Baltimore College of Dental Surgery," thereby clearly identifying dentistry as an autonomous division of the health service.

A past president of the Academy, RADM Chandler was instrumental in locating the dentures worn by George Washington, for inclusion in a historic dental exhibit at the Smithsonian Institution, Washington, D.C. — BUMED Code 6.



AWARD RECIPIENT.—In recognition of his distinguished contributions to dental history, RADM Alfred W. Chandler, DC, USN (Ret.), recently received the Hayden-Harris Award sponsored by the American Academy of the History of Dentistry.

THE GASTROENTEROLOGISTS' CORNER

Current Concepts on the Function and Clinical Importance of the Lower Esophageal Sphincter

By CAPT Donald O. Castell, MC, USN*

In the 2 years since a discussion of lower esophageal sphincter (LES) function appeared in *U.S. Navy Medicine* (60:40, 1972), there has been a continuing information explosion relating to the physiology and pathophysiology of this smooth-muscle structure. Recent information has significantly altered our understanding of esophageal disease, and its therapy. It is now clear that the LES performs 2 major functions in digestive physiology: 1) allows free passage of ingested material from esophagus to stomach, by relaxation from its usually tonic state during swallowing; and 2) prevents the reflux of acid gastric material from the stomach to the esophagus, by maintaining an effective high-pressure zone. A defect in either one of these normal functions of the LES would logically be manifest in a clinically recognizable disorder.

Through the use of animal models and refinements in manometric techniques, much useful information concerning the function of the LES has emerged. As illustrated schematically in Figure 1, there are 3 crucial components in the normal control of sphincter function: 1) the nervous supply to the sphincter muscle; 2) gastrointestinal hormones, particularly gastrin; and 3) the intrinsic sphincteric smooth muscle itself.

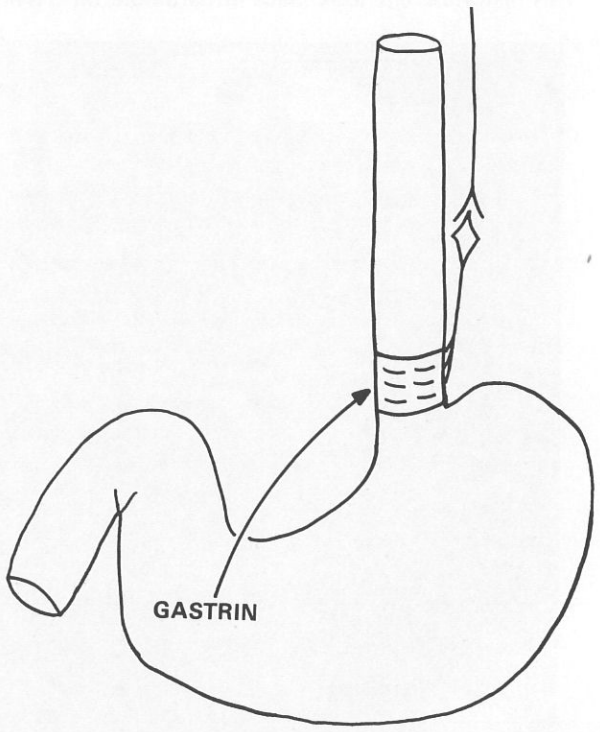


Figure 1.—Schematic representation of the 3 important physiologic factors (nerves, gastrointestinal hormones, and sphincteric smooth muscle) in LES control.

The opinions and assertions expressed herein are those of the author and may not be construed as official, or necessarily reflecting the views of the Navy Department or the naval service at large.

*Chief, Gastroenterology Division of the Internal Medicine Service, Naval Regional Medical Center, Philadelphia, Pa. 19145; and Director, Clinical Investigation, Naval Health Sciences Education and Training Command, NNMC, Bethesda, Md.

Studies using either *in-vitro* smooth muscle preparations, or *in-vivo* animal experiments with the cat or opossum, have revealed that the circular smooth muscle at the esophagogastric junction is indeed unique in its ability to respond to pharmacologic and hormonal stimulation.[1,2] Although a definite anatomic sphincter has not been identified at the distal end of the esophagus, chemical identification of a specific muscle segment has been demonstrated.

The full details of the neural control of LES function remain to be elucidated. One clear observation from numerous studies is that vagotomy, whether intra-abdominal or cervical, does not result in a change in resting LES pressure.[3,4] This observation at least suggests that the parasympathetic nervous system has little importance in maintaining the resting tone of the LES. However, pharmacologic doses of cholinergic or anti-cholinergic compounds markedly raise or lower LES pressure, respectively.[5,6] Studies in the opossum suggest that the sympathetic nervous system accounts for a portion of the resting tone of the LES, and that alpha-adrenergic nerves exert a major effect.[7] Finally, recent observations in animal models suggest that non-adrenergic inhibitory fibers (the so-called *purinergic nervous system*) may be responsible for the normal relaxation of the LES during swallowing.[8]

Since the observation that either the hormone gastrin, or synthetic pentagastrin, dramatically increases LES pressure, numerous studies have been performed on the effect of gastrointestinal hormones on the LES. It is now clear that pharmacologic doses of gastrin will increase LES pressure, but to date this is the only hormone that has been shown to result in increases in sphincter pressure.[9] Secretin, cholecystokinin, and glucagon have all been shown to decrease sphincter pressure.[10,11,12] Our studies showing changes in LES pressure with gastric alkalinization and acidification were initially proposed as evidence for the role of endogenous gastrin in the physiologic control of LES pressure. However, recent refinements of these observations by CDR Raymond L. Farrell in our laboratory have raised numerous questions about the specificity of this relationship.[13] When LES pressures and serum gastrin concentrations were measured concurrently during acid and alkali administration, the LES pressure increases were not associated with a proportional increase in circulating endogenous gastrin levels. Subsequently, LCDR Richard H. Higgs has shown that the LES pressure response to gastric alkalinization by various alkalies is not dependent on increases in measurable levels of total serum gastrin.[23] On the other hand, the simultaneous increases in LES pressure and serum gastrin following a protein-rich meal support the concept of a physiologic role for gastrin in regulation of sphincter pressure, but the exact details of this mechanism, and its interaction with other GI hormones and nerves, require clarification.

Clinical disorders of LES function are listed in Table 1. As stated above, a defect in either of the 2 primary physiologic functions of the LES can be expected to cause clinical symptoms. Abnormality of the normal relaxation of the sphincter with swallowing will result in dysphagia, and failure of the sphincter to maintain a competent antireflux barrier leads to heartburn.

Achalasia: Dysphagia is a prominent symptom in achalasia. Manometrically this disease is characterized

TABLE 1.—CLINICAL DISORDERS OF LES FUNCTION

Disorder	*LES Pressure (mm Hg)*	*Proposed Defect*
Normal	15-20	—
Achalasia	40-60	Neural
Scleroderma	< 10	Neural (Smooth Muscle)
Zollinger-Ellison Syndrome	25-30	Excess Endogenous Gastrin
Pernicious Anemia	8-10	Smooth Muscle
Gastroesophageal Reflux	< 10	Deficient Endogenous Gastrin (Smooth Muscle)

by an absence of peristalsis in the body of the esophagus, a hypertensive LES, and an incomplete relaxation of the LES with swallowing. The high sphincter pressure producing the "cardiospasm" associated with this entity has been recently shown to be related to a supersensitivity to endogenous gastrin, secondary to denervation of the sphincteric area.[14]

Scleroderma is a connective tissue disease that often affects the gastrointestinal tract. Manometrically, this condition is characterized by weak-to-absent peristalsis in the distal two thirds (smooth muscle portion) of the esophagus, and a low-to-absent LES pressure. Although dysphagia occurs occasionally in scleroderma patients, the defective antireflux barrier usually causes significant heartburn symptoms. Recent studies have suggested that the mechanism for this defect may be primarily neural in nature, although possible associated atrophy of the gastrointestinal smooth muscle has also been described.[15]

The Zollinger-Ellison (ZE) Syndrome is characterized by extremely high levels of circulating endogenous gastrin, and has recently been shown in a small group of patients to be associated with elevated resting LES pressure.[16] This observation would seem to support the importance of endogenous gastrin in the control of resting LES pressure. It should be noted, however, that dysphagia does not appear in ZE patients, since relaxation of the LES is not impaired. In addition, the rarity of clinical reflux symptoms or esophagitis in these patients, who present tremendously increased quantities of gastric acid, emphasizes the importance of the LES pressure barrier in preventing gastroesophageal reflux.

Pernicious Anemia (PA) is also characterized by extremely high levels of serum gastrin. This finding led to early speculation that the LES pressure might also be elevated in PA patients. However, in studies conducted by CDR Farrell in our laboratory, resting LES pressures were found to be low in these patients when compared to an appropriate control group. In addition, the LES of PA patients showed a defective response to pharmacologic and hormonal stimulation.[17] It has been proposed that the LES defect in PA is primarily one of smooth muscle atrophy. Heartburn is not a common symptom in PA despite the hypotensive LES, primarily because of the achlorhydria that is also present in these patients. However, in a recent report of a patient with PA,[18] heartburn was presented and was attributed to bile reflux, across both an incompetent pyloric and lower esophageal sphincter.

Gastroesophageal Reflux: In patients with symptoms of chronic heartburn, the classical manometric finding is a hypotensive LES. Pressures are generally found to be less than 10 mm above intragastric pressure. Although recent circumstantial data have suggested that a major defect in these patients might be a deficient release of endogenous gastrin,[19] recent studies comparing simultaneous LES pressure measurements and serum gastrin concentrations have failed to confirm this hypothesis.[13] Fasting serum gastrin values were found to be somewhat lower in patients with chronic reflux than in control subjects, but the differences were not significant. Furthermore, these slight differences were out of proportion to the marked differences in LES pressures of the control and reflux patients. Following the stimulation of a protein meal, reflux patients showed a somewhat deficient release of endogenous gastrin. At present, it would appear that although a deficient production of endogenous gastrin may partially account for the hypotensive sphincter of reflux patients, the basic defect is probably of a compound nature and includes abnormal sphincteric smooth muscle. (See Table 1.)

The recent series of clinical experiments with foods, and other agents often incriminated by patients for producing heartburn, has revealed interesting results. The ability of a protein meal to increase LES pressure is not surprising, considering the importance attributed to endogenous gastrin in raising sphincter pressure. An exciting observation has been the effect of a fat meal. After ingestion of fat, rapid and sustained decreases in LES pressure have been noted in normal subjects. This finding was felt to be consistent with at least one form of fatty food intolerance, as experienced clinically in patients with chronic reflux.[20] An additional clinical observation which has been studied in our laboratory is the effect of chocolate on LES pressure. As with fat, rapid and sustained decreases in LES pressure are seen in normal subjects after the ingestion of chocolate

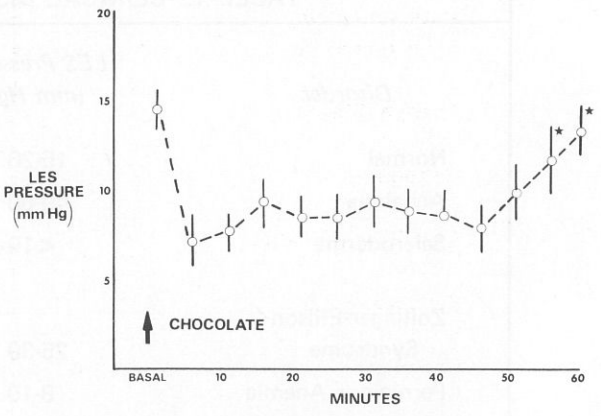


Figure 2.—LES pressure changes after ingestion of chocolate syrup. Open circles indicate mean values, and vertical lines ± 1 SE. Stars mark mean values not significantly lower than basal levels.

syrup.[21] Studies of this effect by LCDR Lewis E. Wright are summarized in Figure 2. Although originally the mechanism was felt to be due to the high fat content of chocolate, it now seems more likely that this effect may result from the methyl xanthines (caffeine and theobromine) in chocolate.

In addition, the dramatic effect of cigarette smoking in decreasing LES pressure and promoting ready reflux of gastric contents has been demonstrated.[22] The many chemical and hormonal agents that have been shown to produce decreases in LES pressure are listed in Table 2. The clinical implications of these observations are obvious. The patient suffering from chronic reflux would be well advised to avoid the use of any or all of these agents.

Of even greater clinical importance may be those agents which produce increased LES pressure. A list of them is provided in Table 3. Gastric alkalinization

TABLE 2.—AGENTS PRODUCING DECREASED LES PRESSURE

Secretin
Cholecystokinin
Glucagon
Prostaglandins E_1, E_2, A_2
Beta-adrenergic agonist (isoproterenol)
Alpha-adrenergic antagonist (phentolamine)
Anticholinergic (atropine)
Theophylline
Caffeine
Gastric acidification
Fat meal
Chocolate
Smoking
Ethanol

TABLE 3.—AGENTS PRODUCING INCREASED LES PRESSURE

Gastrin/Pentagastrin
Prostaglandin F_2
Alpha-adrenergic agonist (norepinephrine; phenylephrine)
Cholinergic (bethanechol; methacholine)
Anticholinesterase (edrophonium)
Betazole
Gastric alkalinization
Metoclopramide
Protein meal

has been repeatedly demonstrated to cause increased LES pressure, with pressure increases occurring after a variety of alkalinizing agents.[23] These studies have led to the conclusion that the use of antacids in the treatment of heartburn has a dual effect, not only neutralizing the acidic gastric contents, but also increasing the sphincteric antireflux barrier.

Recent investigations with the drug metoclopramide have revealed that this agent will raise LES pressure, after either subcutaneous or oral administration.[24,25] However, no convincing supportive clinical studies in heartburn patients have been presented to date.

The ability of cholinergic agents to raise LES pressure is well documented. Not only has bethanechol been shown to increase LES pressure after subcutaneous administration, in both normal subjects and patients with sphincter incompetence,[5] but a 25 mg oral dose of this drug will produce significant increases in LES pressure lasting up to 2 hours, in chronic reflux patients.[26] These observations raise the possibility of a therapeutic role for oral bethanechol in patients with chronic reflux. Recently, a controlled clinical trial performed at this medical center with bethanechol, 25 mg four times a day, has revealed that this agent will effectively decrease reflux symptoms and antacid use in patients with chronic heartburn.[27]

Although the release of endogenous gastrin is proposed as the mechanism by which both alkalinization

and bethanechol increase LES pressure, recent studies using radioimmunoassay to measure serum gastrin concentrations have failed to confirm a gastrin-releasing effect for either one of these agents.[23,28]

Based on the clinical studies considered above, the treatment of heartburn would still seem to involve the avoidance of specific aggravating substances such as fat, chocolate, smoking, and alcohol. The interaction of gastric alkalinization and bethanechol, agents which increase LES pressure, has important therapeutic implications.

REFERENCES

1. Christensen J: Pharmacologic identification of the lower esophageal sphincter. J Clin Invest 49:681-691, 1970.

2. Lipshutz W, Cohen S: Physiological determinants of lower esophageal sphincter function. Gastroenterology 61:16-24, 1971.

3. Mazur JM, Skinner DB, Jones EL, et al: Effect of transabdominal vagotomy on the human gastroesophageal high-pressure zone. Surgery 73:818-822, 1973.

4. Rattan S, Goyal RK: Vagal control of the lower esophageal sphincter. Clin Res 22:366A, 1974.

5. Roling GT, Farrell RL, Castell DO: Cholinergic response of the lower esophageal sphincter. Am J Physiol 222: 967-972, 1972.

6. Lind JF, Crispin JS, McIver DK: The effect of atropine on the gastroesophageal sphincter. Can J Physiol Pharmacol 46:233-238, 1968.

7. DiMarino AJ, Cohen S: The adrenergic control of lower esophageal sphincter function. J Clin Invest 52:2264-2271, 1973.

8. Goyal RK, Rattan S: Mechanism of the lower esophageal sphincter relaxation. J Clin Invest 52:337-341, 1973.

9. Castell DO, Harris LD: Hormonal control of gastro-esophageal-sphincter strength. N Engl J Med 282:886-889, 1970.

10. Cohen S, Lipshutz W: Hormonal regulation of human lower esophageal sphincter strength: Interaction of gastrin and secretin. J Clin Invest 50:449-454, 1971.

11. Resin H, Stern DH, Sturdevant RA, et al: Effect of octapeptide of cholecystokinin on lower esophageal sphincter pressure in man. Gastroenterology 62:797, 1972.

12. Jennewein HM, Waldeck F, Siewert R, et al: The interaction of glucagon and pentagastrin on the lower oesophageal sphincter in man and dog. Gut 14:861-864, 1973.

13. Farrell RL, Castell DO, McGuigan JE: Measurements and comparisons of lower esophageal sphincter pressures and serum gastrin levels in patients with gastroesophageal reflux. Gastroenterology 67:415-422, 1974.

14. Cohen S, Lipshutz W, Hughes W: Role of gastrin supersensitivity in the pathogenesis of lower esophageal sphincter hypertension in achalasia. J Clin Invest 50:1241-1247, 1971.

15. Cohen S, Fisher R, Lipshutz W, et al: The pathogenesis of esophageal dysfunction in scleroderma and Raynaud's disease. J Clin Invest 51:2663-2668, 1972.

16. Isenberg J, Csendes A, Walsh JH: Resting and pentagastrin-stimulated gastroesophageal sphincter pressure in patients with Zollinger-Ellison syndrome. Gastroenterology 61:655-658, 1971.

17. Farrell RL, Nebel OT, McGuire AT, et al: The abnormal lower oesophageal sphincter in pernicious anaemia. Gut 14:767-772, 1973.

18. Orlando RC, Bozymski EM: Heartburn in pernicious anemia. N Engl J Med 289:522-523, 1973.

19. Lipshutz WH, Gaskins RD, Lukash WM, et al: Pathogenesis of lower-esophageal-sphincter incompetence. N Engl J Med 289:182-184, 1973.

20. Nebel OT, Castell DO: Lower esophageal sphincter pressure changes after food ingestion. Gastroenterology 63: 778-783, 1972.

21. Babka JC, Castell DO: On the genesis of heartburn. The effects of specific foods on the lower esophageal sphincter. Am J Dig Dis 18:391-397, 1973.

22. Dennish GW, Castell DO: Inhibitory effect of smoking on the lower esophageal sphincter. N Engl J Med 284:1136-1137, 1971.

23. Higgs RH, Smyth RD, Castell DO: Gastric alkalinization: Effect on lower esophageal sphincter pressure and serum gastrin. N Engl J Med 291:486-490, 1974.

24. Stanciu C, Bennett JR: Metoclopramide in gastro-esophageal reflux. Gut 14:275-279, 1973.

25. Dilawari JB, Misiewicz JJ: Action of oral metoclopramide on the gastroesophageal junction in man. Gut 14: 380-382, 1973.

26. Farrell RL, Roling GT, Castell DO: Stimulation of the incompetent lower esophageal sphincter. A possible advance in therapy of heartburn. Am J Dig Dis 18:646-650, 1973.

27. Farrell RL, Roling GT, Castell DO: Cholinergic therapy of chronic heartburn. A controlled trial. Ann Intern Med 80:573-576, 1974.

28. Humphries TJ, Farrell RL, Castell DO, et al: Serum gastrin response to oral bethanechol. Gastroenterology 66:714, 1974.

NAVY MEDICINE — 1875

SOUTH ATLANTIC STATION. Surgeon Adolph A. Hoehling reports on conditions aboard the USS *Monongahela*:

> A sick bay, or some permanent place for the sick, is much needed. Sailors are not humane to their sick comrades as a rule, and when I have very sick men placed under the top-gallant forecastle, the men whose billets are appropriated make trouble, which cannot fail to be injurious to a debilitated invalid whose mind is already depressed by his illness. Recently a patient affected with phthisis was placed, during a violent paroxysm of dyspnea, in an airy billet on the spar-deck, which is usually occupied by an aged, gray-headed petty officer. The latter became angry and said that he wished the patient were dead and overboard, so that he could not obstruct the billet alluded to. About the same time, a marine affected with disease of the mitral valve of the heart was removed from the stifling berth-deck to the forecastle, whereupon the seaman acting as second captain of that part of the ship unhooked the patient's hammock and threw it upon the deck, asserting that it should not interfere with the billet of a man who stood a watch under him. The discomforts attending an over-crowded vessel may partly explain this feeling toward the sick. Malingering and enlistment with concealed diseases produce much loss of service from men morally worthless, which causes them to magnify moderate ailments into disabilities. It would be well to endorse the discharge papers of men with their relative fondness for the sick-list during the cruise. The certificate for the recruit's signature, on Form Q, does not always accomplish the purpose intended, as I have had men with epilepsia, strictura urethra, and syphilitic constitution on board this ship, as well as one case of Filaria guineensis, in all of which the men knew that the infirmity existed when the certificate was falsely signed. Their usual excuse is that the disease did not trouble them just then. Very old and young persons make poor material for a ship's company, and of these extremes a large part of our crew consists. A good chest-measure is of vast importance in the *ensemble* of a recruit.—*Hygienic and Medical Reports by Medical Officers of the U.S. Navy*, prepared for publication under the direction of the Surgeon General of the Navy, by Joseph B. Parker, A.M., M.D., Surgeon, U.S. Navy, Assistant to the Bureau of Medicine and Surgery. Washington (D.C.), Government Printing Office, 1879, pp. 31-32.

BUMED BITES BULLET

The Medical Department is feeling the effects of soaring utility costs and inflation in general . . . operating budget is austere . . . economy must be observed in administrative practices, travel expenses, and clinical areas in the field.

NEW DENTAL REGIONS SET

Effective 1 Jan 1975, 10 new dental regions were established to serve the following areas: San Francisco, Long Beach, and San Diego, Calif.; Pearl Harbor, Hawaii; Guam; Charleston and Parris Island, S.C.; Washington, D.C.; Camp Lejeune, N.C.; and Newport, R.I. . . . 55 dental facilities now under BUMED control . . . 7 more regions requested, with proposed implementation date of 1 Apr 1975, to complete Phase II of dental regionalization. If a 1-year trial is successful, the 3rd and final phase of dental regionalization will be sent to SECNAV for approval.

CONSTRUCTION APPROVED

Projects totaling $76,171,000 have been approved by Congress for FY-75 Medical Military Construction Program . . . details to be forthcoming in U.S. NAV MED.

CONFUSED ABOUT AUDITS? NO WONDER

Some 51 audits currently affect Navy medical activities: 32 from the Government Accounting Office, 13 from Naval Audit Service, 3 from the Office of the Secretary of Defense, and 3 from the Bureau of Naval Personnel. Navy policy is to cooperate fully with auditors.

BUMED control for all audits is Code 46 . . . if Medical Department operations are concerned, a BUMED action officer is appointed.

For further information see SECNAVINST 7510.7 series: Department of Navy Audit Manual for Management.

PHYSICIAN STAFFTAR STUDY

As part of a study begun in 1974 to establish acceptable staffing targets (STAFFTARs) for physicians in Navy health care facilities, a panel of specialty physicians has been proposed to determine the types of tasks performed in each medical specialty during a typical workday. Identified tasks will be used as standards in future studies. First up for the panel's consideration is the specialty of orthopedics.

Proposed standards will be used as guidelines to help Medical Department managers determine the number and types of physicians needed to accomplish assigned missions.

USUHS SCHOOL OF MEDICINE DEAN-DESIGNATE

First dean-designate of the School of Medicine, Uniformed Services University of the Health Sciences is Jay Philip Sanford, M.D. . . . currently professor

of internal medicine, University of Texas Southwestern Medical School . . . also chief of Bacteriology Laboratory, Parkland Memorial Hospital, Dallas . . . graduate of University of Michigan Medical School (1952) . . . Fellow of American Academy of Microbiology, and American College of Physicians.

SAN DIEGO WELCOMES LABIS

Design of renovated spaces to be occupied by the Laboratory Information System (LABIS) at NAVREGMEDCEN San Diego is complete . . . actual construction of the LABIS computer site to be accomplished by Apr 1975.

Both the regional dispensary and Naval Training Center at San Diego now have 3-channel electrocardiogram (ECG) carts . . . a 3rd cart to arrive soon at NAS North Island Regional Dispensary. With the carts, ECG analog data can be transmitted over conventional telephone lines to equipment installed in the Heart Station for Computer-Assisted Practice of Cardiology, Naval Medical Data Services Center, Bethesda, Md.

MO TRAINING OPPORTUNITIES GOOD

Opportunities for operational medical officers to be accepted into residency training programs remain high . . . 68% of all Navy flight surgeons who applied to begin clinical residencies in 1975 were accepted for such training. This compares favorably with acceptance rates for interns, and other categories of applicants.

AUTOMATIC-DATA-PROCESSING STUDY

A study is under way at the Naval School of Health Sciences, San Diego to determine the School's total automatic data processing requirements . . . study includes remote job entry capabilities in support of education and training functions.

In another study at NAVREGMEDCEN San Diego, development and programming of the Military Automated Personnel System is in progress, using the IBM 360/65 computer system at the nearby Naval Electronics Laboratory Center.

Time share option, job control language, and common business-oriented language are being used with all programs.

MORE ON TAXES FOR MEDICAL SCHOLARSHIP STUDENTS

In U.S. NAV MED 65(1):41 of Jan 1975, scholarship students receiving stipends were advised that such funds were not liable for taxation, and that a refund of taxes previously paid on such income could be obtained.

We are now informed that Public Law 93-483 is not entirely clear concerning taxation of the scholarship stipend, and that DOD has recommended that students not file for a refund. Public Law 93-483 has been referred to the Internal Revenue Service for a ruling. When that ruling is made, individual scholarship students, as well as those who previously participated in the program, will be notified. If appropriate, instructions on how to obtain refunds will be provided at that time.

Utilization of the NUVA System for Splinting Teeth

By CAPT Richard C. Edwards, DC, USN
and
LCDR Dennis R. Ahl, DC, USN
Naval Dental Clinic
Washington Navy Yard
Washington, D.C. 20374

INTRODUCTION

Splinting mobile teeth to preserve and prolong their functional longevity has been employed for centuries, with supporting evidence dating back to the 8th Century, B.C.[1] Since that time a wide variety of materials and methods has been used in the fabrication of dental splints.

Indications for the splinting of teeth are currently debated among periodontists, and the use of splints as an adjunct to periodontal therapy is generally based on empirical knowledge. Although documented research of the splinting of teeth[2] is limited and does not allow for definitive opinions on the value of such devices, dental splints are still widely used in dentistry today.

Splints have been classified in different ways by various authors; they are generally considered as temporary or permanent, each type being of a fixed or removable design. Independent of the category of splint used, Simring[3] listed the following qualities of an ideal splint:

1) simple
2) economical
3) stable and efficient
4) hygienic
5) nonirritating
6) compatible with treatment
7) applicable to all areas of the mouth
8) esthetic.

The decision to utilize a dental splint must be based on the therapist's experience and the intended result. I shall not attempt to justify or supply the criteria for splinting teeth, in this paper; my purpose is to direct attention toward a new simplified method for splinting teeth, which incorporates the ideal qualities of a splint and versatility of application, in a variety of cases where such treatment is indicated.

The use of the *NUVA* system has been successful in: splinting periodontally involved teeth; fabricating immediate "temporary" fixed bridges, by replacement of the missing tooth with an acrylic denture tooth; replacing fractured crowns on endodontically treated teeth; replacing the incisal third of a fractured crown, where there is no pulpal involvement; and as a "retainer," on adult orthodontically treated teeth. Some have successfully used the *NUVA-fil* material in fabricating splints that have functioned for over 2 years.[4] (The author's experience has been limited to 12 months, utilizing the *NUVA-seal* material.)

The opinions or assertions contained herein are those of the author, and are not to be construed as official or reflecting the views of the Navy Department, or the naval service at large. References to commercial items are not intended to imply product endorsement by the U.S. Navy, or the naval service at large.

**Nuvoseal-Nuvofil* acid-etch systems have given better clinical results than other filled resin acid-etch systems which are presently available.

PROCEDURE

With a little resourcefulness on the part of the individual therapist, the basic principles of splinting teeth as presented in this paper, can be modified for other applications. The fundamental steps are similar to those followed when *NUVA-seal* is employed as an occlusal sealant, except that application is confined to the interproximal contact areas.

1. A rubber dam is placed over the teeth that are to be immobilized.
2. The teeth are polished with Zircate, being sure to clear with a polishing strip those contact areas that cannot be reached using the prophy cup.
3. Flush all areas with a copious amount of water, and air-dry the isolated field.
4. Apply the phosphoric acid (supplied with the *NUVA-seal* kit) continuously to the contact areas and interdental embrasures of the teeth to be immobilized, etching the enamel for 60 seconds.
5. Rinse all areas where the acid has been applied with a copious amount of water, and air-dry.
6. Apply *NUVA-seal* individually to each acid-etched interproximal area on the labial surface, and polymerize each area with the *NUVA* "gun" for 30 seconds.
7. Repeat step 6 on the lingual interproximal areas.
8. If there is a diastema the *NUVA-fil* can be used to occlude the area, though generally the repetition of steps 6 and 7 with *NUVA-seal* has proven adequate, and has resulted in better esthetics.
9. Remove the rubber dam and eliminate any occlusal interference.
10. If the material was judiciously applied, there should be little need for contouring the bridged areas. However, the interproximal areas must be inspected, paying particular attention to the perpetual need for exercising efficient plaque-control procedures on the interdental papillae.

DISCUSSION

This splinting method offers several advantages over other temporary or permanent splints:

1. It can be accomplished at chairside with a minimal amount of time.
2. It is exceedingly more esthetic than other splints, and employs no dental instrument preparation.
3. Edentulous areas can be restored with acrylic denture teeth.
4. It can be considered as a temporary splint, through simple removal of the material with discs or burs.
5. It can be considered as a permanent splint, with reapplication of the material if a fracture should occur.

While further evaluation is necessary to determine the long-term permanency of this method, it presently appears that the system represents a new and exciting adjunct to the therapeutic spectrum, showing promise in a variety of clinical applications.

REFERENCES

1. Casotti L: Betulanian — Etruscan dentistry. *Dental Abstracts* 3:535, 1958.
2. Glickman I, Stein R and Smulow J: The effect of increased functional forces upon the periodontium of splinted and non-splinted teeth. J Periodontol 32:290, 1961.
3. Simring M: Temporary splinting of multiple mobile teeth. J Am Dent Assoc 53:429, 1956.
4. Fedi P: Personal communication, University of Missouri, Kansas City, Mo.

PREVENTIVE DENTISTRY — CALIFORNIA STYLE

TAGGED.—California motorists get an important dental health reminder from the license-plate tags belonging to CAPT James J. Dempsey, DC, USN (Ret.). CAPT Dempsey now lives in San Diego.

New at Nav Hosp Port Hueneme: Self-Treatment Medication Program

By LCDR E. Donald Cook, Jr., MSC, USN*
Chief, Pharmacy Service
Naval Hospital
Port Hueneme, California 93043

It's a problem gripping most Navy medical facilities these days: how to reduce the physician's workload without reducing service to the patient.

At Nav Hosp Port Hueneme, Calif., a self-treatment medication program, designed to provide care for minor medical complaints that do not require a physician's attention, has been well accepted and effective. Developed by the hospital Pharmacy and Therapeutic Committee, the new program duplicates the common civilian practice whereby persons with minor medical complaints frequently consult a pharmacist rather than a physician, buy medication without a prescription, and treat their own minor aches and pains. Conditions most responsive to this type of self treatment include colds, mild diarrhea, fungus infections, itching, and upset stomach.

GUIDELINES

Five specific guidelines were established for the self-treatment medication program at Port Hueneme:

- Every patient must show a valid identification card whenever medication is received.
- Children under 10 years of age are not included in the program.
- Patients 10-18 years of age must be accompanied by a parent or guardian with a valid identification card.
- The program is limited to specific medications, dispensed only during regular working hours (0800-1630, Monday through Friday).
- Patients may not receive self-treatment medications on the same day they are seen in the hospital by a physician.

This last guideline was established to preclude conflict with the physician's prescribed treatment of a patient, and to avoid adverse reactions between drugs prescribed by the physician and drugs obtained through the self-treatment program.

Medications are classified by function, such as cold and cough preparations, topical ointments, antacids, and so forth, in order to discourage patients from requesting a specific medication by name when not enlightened as to the proper use of the drug. (For example, most patients would not know that Pyrroxate is used to treat cold symptoms.)

The amount of medication dispensed is purposely kept small, to discourage patients from treating themselves for long periods of time without consulting a

*Since this article was received for publication, LCDR Cook has joined the staff of NAVREGMEDCEN Long Beach, Calif. 90801.

The opinions or assertions contained herein are those of the author and are not to be construed as official, or necessarily reflecting the views of the Navy Department or the naval service at large.

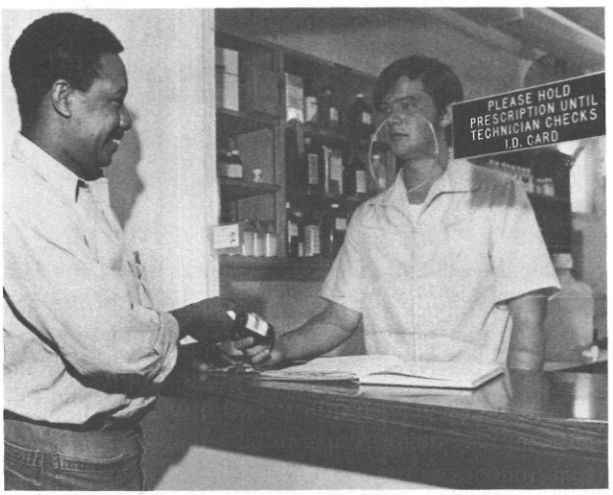
physician. With the exception of acne day lotion, which is produced locally, all medications are issued in commercial packages that carry complete directions for use. When receiving medications, patients must sign a log and indicate their own, or their sponsor's Social Security number. The names and amounts of medications dispensed are recorded by the pharmacy technician.

IMPLEMENTATION

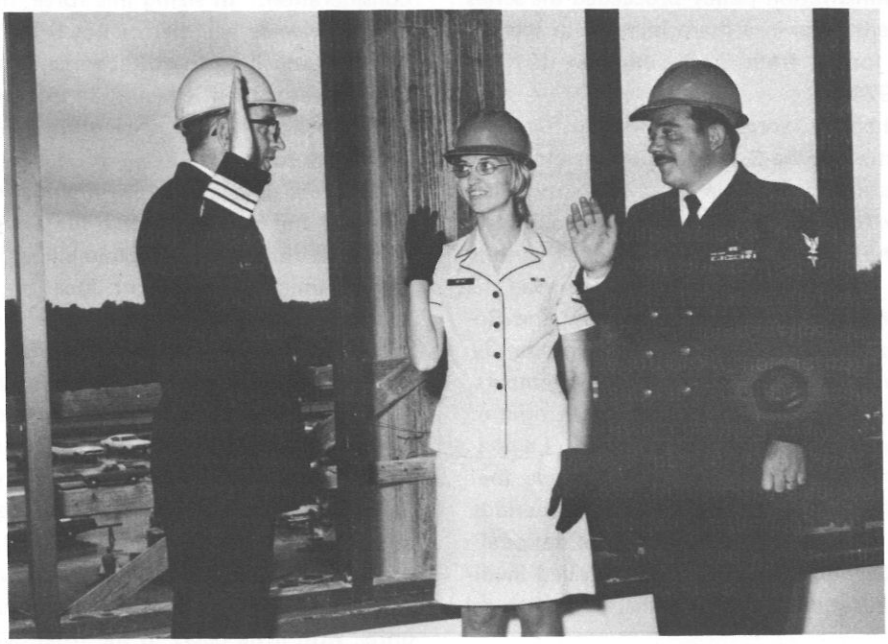
Before the program began in Apr 1974, it was announced and described in *Health Care Communique,* a monthly bulletin prepared by members of the hospital staff for distribution to beneficiaries served by Nav Hosp Port Hueneme. Signs placed in the outpatient clinic directed patients desiring self-treatment medications to proceed at once to the pharmacy. Clinic nurses were briefed on available medications, and a sign posted outside the pharmacy window listed the categories of medications that could be dispensed without a prescription.

The program grew rapidly. On the first day only 10 self-treatment items were issued by the pharmacy; 10 days later, 46 items were issued. The average is about 40 items daily, approximately 8% of the outpatient workload.

Evaluation after the first 3 months showed that the program had helped to relieve some of the pressure on medical officers assigned to the hospital outpatient department. Since the majority of medications dispensed were cold and cough preparations, it was expected that the program would expand during the fall and winter months, serving to alleviate the physician shortage.



TREAT YOURSELF.—A pharmacy technician at Nav Hosp Port Hueneme, Calif., fills a request for a patient participating in the self-treatment medication program.



JUMPING THE GUN.—HM3 Sandra Bryant and HM1 Gary Burgdoff, X-ray technicians at the Nav Aer and REGMEDCEN, Pensacola, Fla., wanted to be the first to reenlist at the new medical center, scheduled for completion in early 1976. So donning hard hats, they joined CDR Wilfred I. Casler, MSC, USN (left) in the future office of the medical center commanding officer to repeat the oath of enlistment.—PAO, Nav Aer and REGMEDCEN, Pensacola, Fla. (Photo by PH2 Nancy Vick, USN.)

Restructured Reserve — Update

Effective utilization of all the resources of the U.S. and its Free World allies is the embodiment of the concept of "total force," in its broadest interpretation. As applied to the Naval Reserve, the concept enjoins the most effective and economical means of integrating Reserve and active forces in order to meet the military requirements of national strategy. In 1970, Secretary of Defense Melvin Laird said: "Members of the National Guard and Reserve, instead of draftees, will be the initial and primary source of augmentation of the active forces in any future emergency requiring a rapid and substantial expansion of the active forces." From this statement of Administration policy proceeded the series of events that eventuated in a sharp increase in spending for Reserve forces, from $2.6 billion in 1970 to $4.4 billion in 1974.

In the comprehensive reorganization of the Reserve known as restructuring, the 3 most important elements of a Reserve force are identifiable as: availability, cost, and deployability for a defined mission. Availability is conditioned by the laws governing the recall of various elements of the Reserve — the selected Reserve, the Active Status Pool, the Standby Reserve, and the Retired Reserve. The Ready Reserve may be involuntarily recalled in numbers not to exceed one million members, for periods up to a maximum of 24 months, in time of national emergency declared by the President. Legislation is being drafted in OSD* that would enable the Secretary to recall as many as 50,000 men, for periods up to 6 months, without the declaration of a national emergency. The Standby Reserve can be recalled involuntarily for the duration plus 6 months, in a national emergency declared by Congress. The Retired Reserve may be recalled under the same regulations as those governing the Standby Reserve. Reservists on an inactive status list, or in a retired status, may be recalled only when it is determined that inadequate numbers of qualified personnel are available in all other Reserve categories.

Cost is the common thread that binds together all areas of decision-making in the federal government. Five reservists cost about the same as one man on active duty when all the elements of pay, bonuses, travel, services in kind, training, and retirement are taken into consideration. In sizing this force, managers must inevitably decide whether or not 5 Reserves are, in fact, worth as much to the total force as one man on active duty. If not, then it would be militarily more effective and financially more efficient to spend the money in the active force.

The final and conclusive argument for the maintenance of any kind of Reserve force rests on the deployability of that force. Deployability, in turn, is a function of training, equipment, location, organization, and morale. Flexibility in planning for Reserve utilization requires a force that may be readily and quickly deployed, not merely recalled to duty. Experience in the past has shown that very large units of the size of an Army brigade or division, of which there are some 27, become deployable in about the length of time which is required to conscript and train a unit of the same size from zero. Smaller trained units of the size of an infantry company, however, have excellent mobilization potential and may be integrated into most active units, with little delay in the total deployment of the unit. Individual Ready Reservists, that is, the Active Status Pool of the Ready Reserve, although admittedly small one-man units, have limited potential for rapid deployment. They and the Phased Forces units of the Selected Reserve, the people reservoirs, are suited to a

---

The above article was furnished by CAPT N.V. Cooley, Jr., MC, USNR, our Naval Reserve editor and director of the Naval Reserve Division, BUMED Code 36.

*Office of the Secretary of Defense

gradual staged mobilization of resources after the model of World War II. Under this set of circumstances conscription might serve as well to augment the active force, without the large day-to-day expenses of maintaining a Reserve Program. Hence, the Selected Reserve is restructured in small units, trained according to clearly defined mobilization objectives. Recall and deployment will be a single process for these units, whose mission is clearly understood and anticipated by the active forces with whom they will be integrated.

CURRENT STATUS

The early response to restructuring has been gratifying. All but 3 of the Naval Regional Medical Center Reenforcement Units, now designated MC/XXXX, have been activated. Those 3, and perhaps a few others, will be considered for relocation in the near future. As of 15 Dec 1974, 41% of officers and 68% of enlisted strength were on board.

Program Sponsor Field Representatives have been nominated in all but 2 Reserve Readiness Areas, with deputies nominated in all areas served by an inactive flag officer. These reps are to be responsible for: liaison between units and active commands, service as advisors to Readiness Command staffs, coordination of unit activity in support of normal medical activities of the Naval Reserve, and liaison between units and Commandants via the District Medical Program Officers. These nominations await confirmation by the Chief of Naval Reserve.

All Reserve travel has been sharply restricted for the remainder of the fiscal year (FY). No travel outside the contiguous 48 states by any mode of transportation is authorized for ACDUTRA after 15 Oct 1974, and it has been directed that ACDUTRA be taken as near home as possible, to reduce travel costs. TEMAC is suspended for ranks above 0-4.

There are more and more indications that Reserve-force size will decline from its present level of 111,000 to 92,000 by the end of FY-76. This may require a reduction in paid-officer strength by as much as 20%, but no change in enlisted billets. One projection has 3 officer pay billets discontinued in the large Medical Organized Reserve Units (ORUs), and one in the small ORUs. The status of these changes remains uncertain at this time.

The Chief of Naval Reserve has implemented a study of the future non-pay program, in a message soliciting suggestions from a variety of sources within a framework of 4 alternatives. Close on the heels of that message came another, which indicated that full manning of all restructured units is authorized. It stated further that, "UNDER NO CIRCUMSTANCES SHALL PERSONNEL ELIGIBLE FOR ASSIGNMENT TO A RESTRUCTURED UNIT, AND FOR WHOM AN APPROPRIATE BILLET VACANCY EXISTS, BE RETAINED IN A NON-RESTRUCTURED UNIT IN EITHER A DRILL PAY OR NON-PAY STATUS." The non-pay program, to be recommended by BUMED Code 36, will be a system of units in parallel with restructured units having the same organization and mission. Eligibility for membership in a non-pay status will be based primarily on pay billet nonavailability, with consideration also given to Navy officer billet codes (NOBC), mobilization potential, and special assignments, such as Medical School Liaison Officer and lecturer/consultant. The open-ended medical company is probably a thing of the past.

TRAINING

The mission and training statement for medical units is now ready for expansion, and the speed of application will increase. The medical program officer will continue to serve as the point of contact for logistic support. Training curricula will be forwarded via the program officer with instructions for their use, and for acquisition of necessary training materials. Program Sponsor Field Representatives have been nominated for each Readiness Command, and responsibility for local training-program effectiveness will be under their cognizance. As these nominations are confirmed, it is recommended that a strong relationship be established between the Representative and his local commanding officer.

Many existing training materials will be maintained, while others will be discontinued. Interim guidance concerning training can be received from Code 361 at the Bureau of Medicine and Surgery, or from the District Medical Program Officer.

During regular weekend drills, units are establishing liaison with USN, USAF-USA, VA, and civilian activities. Many of the units conduct drills on Saturday, at a nearby medical facility where actual practical training can take place. Sunday drills are held at the Naval Reserve Center, or at some other suitable facility, where the practical training can be reviewed and a more academic atmosphere maintained. Both days can be used for practical team training of the unit, within the limits of personnel and material resources.

A comprehensive training-officer course will be offered in the future. It will present the basic knowledge and team training components necessary to implement

a training program, geared to mobilization readiness. Some areas of emphasis will be: knowledge of mobilization exercises and requirements, ability to conduct and understand readiness evaluation procedures, essentials of weekend-away training, and knowledge and ability to coordinate Navy Enlisted Classification (NEC) and NOBC training.

The training officer obviously can not administer the entire course by himself. As much as is possible, information about the training program will be provided to him for his familiarization and use. The training officer will report to his commanding officer at the completion of the course, and a distribution of workload can be determined. In this way, at least one individual in the unit will have been exposed to major elements included in the training program.

An example of an existing unit is MC/2812, St. Louis, Mo. This unit drills on Saturdays at the USAF Hospital, Scott Air Force Base, Ill., where Reserve corpsmen are assigned to hospital departments that offer constructive training for maintaining Navy-acquired skills, and for developing any readiness potential which the individual has acquired subsequently, or has the ability to develop. Officer personnel are utilized to the extent possible in their military specialty; however, they are also responsible for supervision of Hospital Corps personnel training, and the administrative responsibilities of the unit.

On Sunday of each drill weekend the unit returns to the Naval Reserve Center in St. Louis to provide assistance in physical and dental examinations, immunizations, and other health-care functions for drilling units or other personnel at the Reserve Center. Practical/team training exercises receive priority on Sunday, with time set aside for review and presentation of practical training experiences. Other aspects of drill activity include: general military training, career/military counseling, physical fitness, human goals, classroom presentation, and preparation for advancement as described in the mission and training statement.

Training is an all-hands evolution. Key enlisted personnel should participate in the planning of training, particularly for enlisted personnel. The medical units are small enough to permit identification of the educational and professional levels of all personnel, providing opportunity for each individual to participate in and benefit from the training program. Even with the most traditional presentation, assurance of accountability should be evident; each member of the unit should become as proficient, in as many areas, as he is professionally and ethically capable of becoming.

The Bureau of Medicine and Surgery is receptive to suggestions that can improve or affirm current effectiveness of each training program.

THE NEAR FUTURE

The likelihood of drill pay Alpha is remote for officers in medical units of Program 11, except for those in the 8 Preventive Medicine Units, which are designated Complete Response Units (CRUs). The previously referenced CHNAVRES message indicated that, in general, the restructured program was already oversubscribed in Alpha and action would be taken to reduce these numbers. Work has begun to redefine the mission statement for Preventive Medicine Units, and to design a training program for them. From the new mission statement will be derived the Initial Outfitting List, after which the program can be funded. A new course in infection control and preventive medicine is being established by the Preventive Medicine Service, Great Lakes, Ill. Details of the course, including dates, will be published in the FY-76 revision of the ACDUTRA catalog that will be available in June, 1975.

A film presentation will soon be prepared for distribution to active commands. In the film the mission and training plans for restructured reserve units are outlined. Active commands are requested to cooperate in, and assume responsibility for establishing a meaningful program of on-the-job training and ACDUTRA. It is suggested that each command designate an officer to handle liaison with drilling units of the Selected Reserve. This theme will also be addressed in the next issue of *BUMED Talking Papers.*

The BUMED Information System (BUMIS), an electronic personnel data system, will soon go on-line for the active Medical Corps. Arrangements have been made to integrate the Selected Reserve into the system immediately, to include all 2300 officers in the 4 health corps. The Reserve should be on-line, with a terminal in Code 36, by mid-April.

The following unit relocations have been approved: MC/3914, Indianapolis, to Davenport as MC/3916; MC/5118, Salt Lake City, to Twin Cities as MC/5116; MC/8216, Twin Cities, to Milwaukee as MC/8213; MC/8316, Davenport, to Sioux Falls; MC/8517, Springfield, to Omaha; PMU/616, from Duluth to Indianapolis as PMU/614; PMU/717, from Omaha to Lincoln. It is likely that units will be moved from the Midwest to Boston and Los Angeles, and from Tucson to San Diego.

Management objectives in Code 36 will be to continue the further implementation of OPNAV 5400 series, in the development and institution of a training program which is tailored to the needs of the Naval Reserve. The ultimate purpose is to be able to place at the disposal of the total naval force a system of 80 balanced, trained, ready, deployable units in support of the active commands of the Medical Department.

SCHOLARS' SCUTTLEBUTT

In the "Scholars' Scuttlebutt" of last month, a brief note directed the attention of our subsidy students to the matter of reimbursement for textbooks purchased for use in your medical or osteopathic curriculum.

Under the terms of Public Law 92-426, funds are provided to ensure that each student will be able to buy the necessary books. However, in reviewing the vouchers that are being submitted to the Bureau of Medicine and Surgery for payment, it is evident that abuses of the intent of that legislation have developed. Students are purchasing books far in excess of the number required to adequately meet a medical school curriculum.

It is possible that these abuses are inadvertent, and represent only an attempt on the part of our students to provide themselves with every available aid to a better education. It is also possible that definitive, reasonable guidelines have not been provided to you which establish limitations of spending.

In an effort to provide guidance, the deans of many of your schools have been asked to submit estimates for the cost of required texts. The deans have uniformly recommended that an expenditure of approximately $500 per academic year is sufficient. This dollar figure will represent, therefore, a close approximation of what we believe should meet your needs. In the future, reimbursement requests in excess of this amount per academic year must be fully justified.

Such policy is not intended to prevent the purchase of needed books. However, it should be recognized that this program must operate under sound fiscal constraints, to ensure its continued success. If you have a question regarding a particular purchase, call the program managers of this Bureau for helpful counsel.

* * *

Congratulations to the men at *Cornell Medical School*. In answer to our suggestion, they have organized and elected a Bureau correspondent. Keep up the good work! Let's get some more schools to do the same. Remember, we want to hear from you.

* * *

TAX INFORMATION

In the Jan 1975 *U.S. Navy Medicine* [65(1):41], scholarship students receiving stipends were advised that such funds were not liable for taxation, and that a refund of taxes previously paid on such income could be obtained.

We are now informed that Public Law 93-483 is not entirely clear concerning taxation of the scholarship stipend, and that DOD has recommended that students *not* file for a refund. Public Law 93-483 has been referred to the Internal Revenue Service for a ruling. When that ruling is made, individual scholarship students, as well as those who previously participated in the program, will be notified. If appropriate, instructions on how to obtain refunds will be provided at that time.

* * *

SPECIAL NOTE

Frequently, managers of our subsidy program at this Bureau are requested to provide guidance regarding clerkships in our naval hospitals. The following directive from the Chief, Bureau of Medicine and Surgery, was sent to all our subsidy students on 12 Mar 1974. It is reprinted here, to assist you in formulating your clerkship plans.

Subj: Undergraduate medical education

Ref: (a) BUMED Instruction 12000.5C

1. The Bureau and some hospital commands have been receiving an unusual number of requests from medical and osteopathic students who desire to complete all or part of an academic year in a naval hospital.

It is deemed appropriate that all concerned should be aware of the Bureau's policy concerning those requests.

2. The status that students hold during clerkships will depend upon whether or not they hold appointments in the Navy, and the length of the training program. The following general guidelines will apply:

a) Students on active duty in the Medical and Osteopathic Scholarship Program (1960 or 1965), and in the Senior Medical Student Program (1915), will remain on active duty and can serve clerkships of any length, under "authorization" (no cost) orders. Commands are authorized to make clerkship arrangements directly with such students and their deans. The Bureau (Code 3174) will make arrangements for the issuance of authorization orders, upon receipt of notification of the type of clerkship and the inclusive dates.

b) Students in the Armed Forces Health Professions Scholarship Program (1975) are eligible to serve on active duty for a maximum of 45 days each year. Arrangements for orders to cover that period are made by the Bureau, and clerkships are assigned in accordance with established quotas at the commands concerned. The 45-day period for these students will not be extended through authorization orders. During any period in excess of 45 days, the students will be considered as civilians.

c) Students in the basic Ensign (1915) Program are eligible to serve on active duty for a maximum of 60 days each year. Arrangements for their orders are made through the naval district commandants, in accordance with quotas assigned by the Bureau. During periods in excess of 60 days, they will be considered as civilians.

d) Civilian students, including those from schools with which a hospital may have a major affiliation, will be assigned clerkships in a Civil Service status under the provisions of reference (a). Commanding officers are authorized to make clerkship arrangements directly with individual civilian students, including those who are considered as civilians in b) and c). However, if an institution requests that a hospital accept trainees as a matter of routine, prior approval of the Bureau is required as indicated in reference (a).

3. Upon receipt of a clerkship request (for any period of time) from a medical or osteopathic student, the command concerned should ascertain the status of the student and take action as noted above in paragraph 2.

4. We have received some requests from students who seek permission to complete a major portion of their senior year in naval hospitals that do not offer a variety of programs in graduate medical education. It is deemed appropriate that the clerkship programs in such hospitals be limited to 60 days, unless the time involved covers electives that can be taken in lieu of vacation. The academic atmosphere in the large training hospital is considered to be more conducive to training students for prolonged periods of time in school-prescribed electives.

5. Performance reports on all students who engage in clerkships will be forwarded to BUMED (3174), not later than 30 days after the completion of training. These reports will be an invaluable source of information upon which to base future selections for graduate medical-education programs.

* * *

Students Participating in the 1975 Program
(partial list, continued since the Nov 1974 issue)

Medical School Group	*Class of*
BOSTON UNIV.	
ALBRECHT, Richard C.	'77
CAMPBELL, Elaine M.	'76
EISERT, Susan T.	'75
HAWLEY, Thomas A.	'75
HUBBELL, David B.	'77
MORIARTY, Richard P.	'75
RACICOT, David F.	'75
RYAN, Homer W.	'75
STELMACH, Peter	'75
WALKER, Dale C.	'76
WHALEN, Thomas V., Jr.	'76
WILLIAMS, Rebecca (R)	'75
JOHNS HOPKINS	
BOLTON, Kim P.	'75
GOLDSTEIN, Richard S.	'77
HEIN, Douglas P.	'75
PIANTADOSI, Claude A.	'75
PUDHORODSKY, Gregory S.	'77
UNIV. OF KANSAS	
BELL, Mark G.	'75
HUESTON, Allen L.	'77
KARLIN, Charles A.	'75
MEINHARDT, Ernest J.	'76
KANSAS OSTEOPATHY	
ARROWSMITH, Daniel L.	'77
BABCOCK, Nolan C.	'77
BEBOUT, Robert G.	'77
BURKE, Jimmy L.	'76
CARDEN, Dennis M.	'76
CECIL, James A., II	'76
CORBETT, David W.	'77

Medical School Group	*Class of*
KANSAS OSTEOPATHY (Con.)	
DERBY, George D.	'75
DEVILLERS, Rebecca E.	'76
EASTMAN, Colette M.	'77
EASTMAN, Thomas W.	'77
EDSON, Allan C.	'76
FAIRFAX, Michael J.	'77
FEDER, Joel M.	'75
JONES, Martin W.	'75
KIRBY, John C.	'77
LOGSTON, David G.	'77
MACLEAR, Douglas G.	'76
MARKSTROM, Paul E.	'75
MC ALLISTER, Michael R.	'77
MILLER, Michael L.	'75
MILLER, Stephen A.	'76
NADER, Daniel A.	'77
NICHOLSON, Michael T.	'76
NORTH, Robert B., Jr.	'75
OPFER, Walter D.	'77
OPPLIGER, Eric R., Jr.	'76
PALMER, George F.	'77
PETRUZZO, Robert T., Jr.	'75
PORCELLI, Margaret A.	'77
RAMEY, Jack M.	'76
REMER, Herbert E.	'75
SCHNEIDER, Raymond H., III	'75
STARBUCK, David H.	'76
THOMAS, Marc C.	'76
WILLIAMS, David C.	'76
UNIV. OF KENTUCKY	
ALGIER, Carol A.	'76
BORST, George C., III	'75
HAEBERLIN, James R.	'75
MC KENSIE, Richard D.	'76
MONTGOMERY, Earl W.	'76
RICE, Linda J.	'77
LSU, NEW ORLEANS	
ENGHARDT, Michael H.	'75
FRIEDMAN, Aaron J.	'76
IGLINSKY, William J.	'76
JONES, Warren A.	'77
SOLIS, Sammy J.	'77
YOUNG, David B.	'75
LSU, SHREVEPORT	
ALBRITTON, Michael A.	'77
ROGERS, William B.	'77
WILLETT, Edward D.	'77

Medical School Group	*Class of*
LOUISVILLE	
DEVITT, Charles K.	'77
FAITH, William T.	'77
GUNN, Dale W.	'76
KING, Paul W.	'75
LUTTREL, William E.	'77
PAYNE, Michael W.	'75
TUCKER, Warren G.	'77
WEST, David M.	'77
WHITE, Donna M.	'77
UNIV. OF MARYLAND	
CHIANTELIA, Noel M.	'75
DUDLEY, Albert H., III	'75
EDWARDS, Willarda V.	'77
ETTER, Harry S., Jr.	'77
MOSLEY, Coleman A., Jr.	'77
SUSKI, Ronald T.	'75
TAUBER, William B.	'76
MAYO	
NELSON, Mark L.	'77
UNIV. OF MICHIGAN	
CURRY, Stephen R.	'77
HOOD, Howard H., III	'77
KECK, Keith A.	'76
REED, Philip C.	'76
SCHNEIDER, Richard J.	'76
SHAFFER, William O.	'76
MICHIGAN STATE-COLLEGE OF HUMAN MEDICINE	
WILBERG, Carl W.	'75
MICHIGAN STATE OSTEOPATHIC	
HENRY, Robert A., Jr.	'76
KLATT, Richard W.	'75
VARCAK, Ronald J.	'75
MINNESOTA, DULUTH	
DETERT, David G.	'76
MINNESOTA, MINNEAPOLIS	
LORENZ, Richard E.	'76
SEAQUIST, Mark B.	'75
WENNGATZ, Halbert F.	'75
UNIV. OF MISSISSIPPI	
CONWILL, David E.	'76
FLEMING, John C.	'76
FLYNT, Joel R.	'76

Medical School Group	*Class of*
UNIV. OF MISSISSIPPI (Con.)	
FULLER, Robert P., Jr.	'76
GAMBLIN, George T.	'77
GOODIN, William H.	'77
HOLLAND, Thomas V.	'76
LIMBAUGH, Lee A.	'77
LOPER, Robert M.	'77
MILLER, Ronald V.	'77
PACE, Mary C.	'75
PACE, Samuel C.	'75
PARKER, Gregg S.	'76
TANKSLEY, Radford D.	'77
TURNER, Sibley N.	'77
WHITE, Robert A., Jr.	'77
TUFTS	
BISHOP, John W.	'77
GOODWIN, Randolph A.	'77
HANDLER, Jeffrey B.	'75
HANSEN, Marshall P.	'77
TULANE	
ALLEN, Robert G., Jr.	'75
BOURGEOIS, Robert S.	'75
COHEN, Bernard M.	'76
FREEMAN, Louie D.	'75
JOINER, Charles R.	'75
LONGNECKER, Stanton L.	'76

Medical School Group	*Class of*
TULANE (Con.)	
MAYO, Joseph F., Jr.	'77
MEEK, James M.	'75
SADLIN, Cynthia J.	'75
SANDERS, Mark I.	'77
SHARP, Donald J.	'77
STEWART, Charles R.	'77
STROSAHL, Kurt F.	'75
TYLER, Robyn E.	'76
WAYNE STATE	
BROUSE, Pentha J.	'77
COFFEY, John M.	'75
DEFAZIO, John V., Jr.	'76
ELDER, Paul T.	'76
GRYSEN, Bernard C.	'76
HAMAMA, Inaam	'76
HOLDEN, Randall W.	'75
HYND, Robert F.	'77
KNAPP, Mark J.	'76
KRAUSS, Jay E., Jr.	'75
LEITNER, David W.	'75
LOCH, James R.	'76
NEWELL, Derrick W.	'76
RATCLIFF, Lawrence G.	'75
RUESSMANN, Aime L.	'77
VANWAGNER, Lynn C.	'76
WHITE, Michael J.	'77

MEDICAL AUDIT PROGRAM

The Joint Commission on Accreditation of Hospitals (JCAH) emphasizes the necessity of patient care evaluation activities and, specifically, retrospective patient-care audit in hospitals. For accreditation purposes the Board of Commissioners established the following time schedule for action by accredited hospitals in retrospective patient-care evaluation: Surveys after 1 Jul 1975 will require at least 2 completed outcome audits, and 2 in process per major service. Wherever possible, the nursing service outcome audit should be combined with the medical outcome audit to form a patient-care audit. Major services are considered to be medicine and surgery, usually occurring in obstetrics and gynecology, and often in pediatrics. More major services are identifiable in large regional medical centers and naval hospitals.

In the past, individuals involved in Navy medicine have felt that the various review mechanisms present in the organizations of naval regional medical centers and hospitals were sufficient to meet the JCAH requirements. This is not the case. During recent JCAH inspections this point has been emphasized; activities were placed on notice that their compliance was mandatory if accreditation by that body is sought. Additionally, were accreditation to be denied because of this factor, the graduate medical-education programs which form the cornerstone for retention and recruitment of physicians for service with the Navy Medical Department, would similarly be jeopardized.

The JCAH has developed education programs for the implementation of medical audit, and presents an audit methodology which will satisfy its requirements — the Bureau encourages the adoption of this methodology. These education programs are intended for physicians, psychiatric health professionals, and medical-record personnel. Attendance by key medical staff and medical-record personnel provides the necessary information to implement the medical-audit program.

Naval regional medical centers and hospitals should be aware of this program, and take appropriate action to insure compliance within the deadline dates established by the JCAH Board of Commissioners. Concurrently, BUMED is evaluating the appropriateness of automated-data-processing contractual support to the medical-audit program, but does not consider it essential to the program's implementation.

For advice and assistance regarding the above program, contact: CAPT P.A. Flynn, MC, USN, BUMED Code 3171 (Autovon 294-4121 — Commercial telephone AC 202-254-4121); or CDR H.J. Janson, BUMED Code 44 (Autovon 294-4237 — Commercial AC 202-254-4237). — BUMED Code 1.

PHILOSOPHY OF COMMAND SCREENING BOARD FOR MSC CDRs, AND BELOW

The Medical Department Command Screening Board met recently, and those officers selected for possible assignment to executive-management positions will soon be notified by individual letters. Many outstanding and deserving officers were not selected this year, and it is imperative that they understand the reasoning used by the Board in the screening procedure. Ground rules established by the Board were as follows:

a. Officers not desiring assignment to executive-management positions next year were not considered.

b. Officers facing mandatory retirement within 2 years were not considered. (This applied also to MSC CAPTs.)

c. The Board recognized that the number of

eligible candidates far exceeds the number of positions which are available, and limited the number of selectees accordingly.

d. Only those officers whom the Board considered available for reassignment next year were considered.

e. All officers desiring consideration by the Board will receive such consideration for at least 4 consecutive years.

As can be seen from the foregoing, no officer should construe from his/her nonselection any connotation of noncompetitiveness, or unfavorable impact on his/her promotional opportunities for a future career. The Board simply performed a screening action intended to provide detailers with a supply of available talent for assignment to executive-management positions. Current and projected constraints on PCS funds, coupled with a requirement to adhere rigidly to PRDs (projected rotation dates), make the possibility of large-scale reassignments extremely unlikely. In fact, requests for extension of duty at present station for up to a year are encouraged and will, when feasible, be given favorable consideration. — BUMED Code 1.

CENTO MILITARY MEDICAL NEWSLETTER

The Professional Publications Office (BUMED Code 18) has been named point of contact for the 1975 Central Treaty Organization (CENTO) Military Medical Program, to assist the Chief, U.S. Element, CENTO, in obtaining articles for and developing future editions of the *CENTO Military Medical Newsletter.*

The *Newsletter* has been published periodically since 1968 by the Medical Section, Logistics Division of the CENTO Combined Military Planning Staff, in order to exchange information among CENTO nations for the immediate benefit of their military medical departments and with the ultimate aim of helping to improve the effectiveness of their armed forces.

Members of the Navy Medical Department are invited to submit articles for publication in the *Newsletter.* Articles may relate to any field of military medicine, including medical, dental, veterinary, or hospital administration. Submission of short subjects or questions concerning military procedures, operations, organization, or services is also encouraged.

Authors are asked to observe the following conditions:

- The title of the article, and the name and position of the author(s) should appear in regular type at the top of the 1st page of each submission.
- Articles should be unclassified.
- Reference to source documents should be provided.
- The name of the organization where the work described in the article was carried out, or the meeting where the article was orally presented should be indicated in a footnote on page 1.
- Any necessary acknowledgments should appear on the final page of the article.
- Appropriate headings and subheadings should be used.

Articles for the *Newsletter* may be submitted via BUMED Code 18, or forwarded directly to:

Chief, U.S. Element CENTO
Combined Military Planning Staff
c/o American Embassy
APO New York 09254

Suggestions for and criticism of the *Newsletter* are also invited.

This is an excellent opportunity for members of the Medical Department to exchange useful information with other CENTO military medical personnel. — BUMED Code 18.

CAPT KEE IS MEDICAL INSPECTOR GENERAL

Why would a physician endure the rigors of traveling nearly 80,000 miles a year? Ask the man who knows: CAPT Charles E. Kee, MC, USN, the present Inspector General, Medical.

"The BUMED inspection team wants to help Navy medical facilities achieve the highest possible level of health care delivery," CAPT Kee explains. "We want to make sure that the facilities comply with all BUMED directives, and that they observe the standards set by the Joint Commission on the Accreditation of Hospitals. There's no way we can do this except by making personal inspection visits."

After nearly a year in the top medical inspection job, CAPT Kee has high praise for the performance of young medical officers newly indoctrinated into the Navy. "These men and women are doing a tremendous job," he says, while affirming that more study is needed to determine the most efficient workload for physicians and the optimum levels of ancillary support.

CAPT Kee notes 2 areas that sometimes need special attention: (1) retrospective medical and nursing audits must be developed at medical facilities; and (2) effective utilization of personnel.

CAPT Kee's active-duty military medical career began in 1945 after he obtained his M.D. degree from Northwestern University School of Medicine and completed internship at Presbyterian Hospital, Chicago, Ill.

TRAVELING MAN.—CAPT C.E. Kee, MC, USN, the Inspector General, Medical, travels thousands of miles each year to inspect Navy medical facilities.

Following service as the medical officer in the USS *Hershey,* he was released from active duty in 1946. He subsequently engaged in the private practice of medicine in his home town of Gladstone, Mich., until 1953, when he was recalled to military service during the Korean conflict.

CAPT Kee returned to private practice in 1955. In 1957 he again entered on active duty, reporting for residency training in dermatology at Nav Hosp San Diego, and at the University of Southern California. He later served as chief of dermatology at naval medical facilities in San Diego and Yokosuka, Japan; as Force Surgeon, 3rd Marine Amphibious Force, Vietnam; and as the last CO of the Naval Hospital in USS *Repose*. Immediately prior to assuming his present position, he was CO of NAVREGMEDCEN Long Beach, Calif.

CAPT Kee is certified by the American Board of Dermatology, and is affiliated with many distinguished professional organizations. In addition to the Legion of Merit with Combat "V," Meritorious Service Medal and the Republic of Vietnam Meritorious Unit Citation Gallantry Cross, he wears the following medals: American Campaign, World War II Victory, National Defense Service, Vietnam Service, Naval Reserve, and Republic of Vietnam Campaign.—BUMED Code 12.

BOOST APPLICATIONS ACCEPTED

The Navy Recruiting Command is accepting applications for the BOOST (Broadened Opportunity for Officer Selection and Training) Program. The program is open to enlisted personnel who may have been educationally deprived but who have demonstrated the necessary qualities and desire to become naval officers.

Applicants accepted for the program will attend the BOOST School in San Diego, where they will be trained in mathematics, social and physical sciences, public speaking and writing. Upon successful completion of the program, students will be eligible to apply to the U.S. Naval Academy, NROTC, Navy Enlisted Scientific Education Program (NESEP), Navy Enlisted Nursing Education Program (NENEP), or the Navy Enlisted Dietetic Education Program (NEDEP).

Applications for the BOOST Program should be sent to Commander Recruiting Command (Code 314), 4015 Wilson Blvd., Arlington, Va. 22203 no later than 15 Feb 1975. Details on the BOOST Program and eligibility requirements are contained in BUPERS Manual Articles 1020350 and 1020360.

INACTIVE NAVAL RESERVE ENLISTED ADVANCEMENT POLICY

Recent changes in the Regular Navy enlisted advancement system have had an impact on the advancement of personnel in the inactive Naval Reserve.

For years the pass/fail line for inactive Naval Reserve examinations was determined by the Regular Navy pass line. A recent change in the Regular Navy system establishes a line which passes 92% to 95% of all men and women who take the examination; the final multiple score of these examinees is then calculated. Because Naval Reserve advancement is based solely on examination, score modification of the advancement policy for inactive personnel was necessary.

Inactive Naval Reservists who hope to qualify for advancement based on the results of active-duty examinations must attain the following minimum standard score (MSS):

EXAMINATION	*MSS*
E-4	42
E-5	44
E-6	50

Following the Jan 1975 examination, Reserve chief petty officers will be selected by special boards convened for that purpose.

BUPERS NOTICE 1430 of 19 Sep 1974 explains the new advancement policy in detail. — BUMED Code 36.

DOD TESTS EXPANDED USE OF NONAVAILABILITY STATEMENTS

Under a limited test program effective 1 Feb 1975, new groups of military health-care beneficiaries residing within 30 miles of NAVREGMEDCEN San Diego, Calif., will be required to obtain a nonavailability statement (DD 1251) prior to seeking routine nonemergency hospitalization in a civilian facility under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS). In the designated area, the new requirement affects all retired military personnel, their dependents, and eligible survivors of deceased personnel.

Previously, only active-duty dependents residing with their sponsor, within 30 miles of a uniformed services medical facility were required to obtain a DD 1251 before receiving CHAMPUS-sponsored inpatient care.

The nonavailability statement will be obtained from NAVREGMEDCEN San Diego, or a medical facility authorized to issue such a statement on behalf of the medical center. No statement will be required to obtain outpatient health care or emergency hospitalization in civilian facilities.

Some beneficiaries residing within the test area also reside within a 30-mile radius of NAVREGMEDCEN Camp Pendleton, Calif. These individuals may be referred to Camp Pendleton, rather than to San Diego, for required care.

This test of the expanded use of nonavailability statements was ordered by Department of Defense (DOD) officials in response to an Apr 1974 House Appropriations Committee Survey and Investigation Report, which indicated that DOD medical facilities were underutilized. The report suggested that CHAMPUS costs could be reduced and tax money saved, if eligible beneficiaries were required to obtain all possible inpatient health care in facilities of the uniformed services.

The program is also being tested among beneficiaries residing within 30 miles of USAF Regional Hospital, Maxwell AFB, Ala., and Fitzsimons Army Medical Center, Denver, Colo. Should the tests result in higher inpatient use of military medical facilities, it is anticipated that military retirees and their dependents in other areas may no longer have a free choice between the uniformed services and civilian sources of health care. — BUMED Code 39.

USS *SANCTUARY* TO BE DECOMMISSIONED

The USS *Sanctuary* (AH-17), the Navy's only functioning hospital ship, and the only Navy ship to which women legally can be assigned, will be decommissioned in Mar 1975. The decision to deactivate the ship was made for budgetary reasons.

When *Sanctuary* is decommissioned, the Navy will end its Women-At-Sea pilot program, started in Nov 1972. Over the past 2 years, 19 women officers and 97 enlisted women have served in the ship. Navy officials have called the program "successful."

The women of the *Sanctuary* were assigned to all departments of the ship, accomplishing duties in repair parties, the combat information center, navigation, and communications. In addition to their divisional duties, the women also stood watches, and were assigned to other military duties comparable to their ratings, on an equal basis and by rotation with men. The pilot program indicates that women performed their assignments with ease, expertise, and dedication equal to that of their male counterparts in the same assignments. Follow-on assignments for the women will be in accordance with their qualifications, their preferences, and availability of billet requirements. — *CHINFO Newsgram,* 50-74.

NAVAL INSTITUTE ACQUIRES *OUR NAVY* COLLECTION

The largest private collection of Navy/Coast Guard ship and aircraft photographs in existence has been acquired by the U.S. Naval Institute, the professional society for the maritime services. Compiled over a half century by *Our Navy* magazine, the collection of over 30,000 photographs and negatives chronicles the development of the U.S. Fleet through photos of individual ships commissioned since 1883.

Founded in 1897, *Our Navy* magazine ceased publication in 1972; but the editors continued the extensive photo-order service which had proved popular with researchers, collectors, and ship buffs over several decades. Then, in Jul 1974, the editors decided to retire from business and put their unusual collection up for sale. The Naval Institute's Board of Control authorized the purchase of the entire photographic collection, along with all related dark-room equipment necessary to continue fulfillment of orders.

Augmenting its own extensive photographic library, the *Our Navy* collection gives the Naval Institute what is believed to be the most extensive archive of ship and aircraft prints in the world. While the collection is

being cataloged in Annapolis, photo orders are being processed and a detailed brochure of the pictures available is being prepared. — *NNMC News,* 30(11):4, Oct 1974.

DANGEROUS DRUMS (ANTHRAX)

What's dangerous about drums? They may affect hearing if you happen to be a drummer in a rock band, but otherwise they are generally harmless. However, drums have received recent attention in connection with an uncommon disease known as "woolsorters' disease," or anthrax. A few weeks ago a 22-year-old woman who had purchased some bongo drums in Haiti came down with an infection of the left eye. By the time the infection was diagnosed and treated, she was unable to close her eye. It was later determined that the goatskins (of which the bongo drums were made) were untanned, and thus contained live anthrax spores. As a consequence, SECNAV came out with a message warning Naval personnel against purchasing incompletely tanned hide products in any foreign country. In order to jog our memories about this uncommon but dangerous disease, a brief synopsis follows.

Anthrax is a disease of animals caused by a gram-positive, spore-forming organism, *Bacillus anthracis.* It is occasionally transmitted from animals to man in three forms: a pneumonic form, frequently fatal, that is acquired by inhaling spores; a cutaneous form, the "malignant pustule," such as occurred in the young woman herein reported, and which can occur in persons eating meat contaminated with anthrax. Since the disease is transmitted from domestic animals to people, and since person-to-person transmission rarely occurs, people that acquire this disease generally have had regular contact with farm animals or animal products. For example, anthrax has been reported in farmers, tanners, sheepherders, users of bone fertilizer, glue factory workers, and even in a maker of ivory keys for pianos. In the U.S. anthrax is rare in animals, and consequently, even rarer in humans. In certain developing countries the disease can be quite a problem, however, as in Iran where over 1,000,000 sheep died from anthrax in 1945.

The most common form of the disease, the cutaneous form, clinically presents as a painless ulcer (usually located on the head, neck, or forearm), surrounded by vesicles and nonpitting edema. The center of the ulcer is a "black as coal" eschar or scab. A gram stain reveals gram-positive bacilli, and a culture is generally positive for *Bacillus anthracis.* The respiratory form results from the inhalation of spores, and is manifested by an abrupt onset of hemoptysis, fever, and anxiety. There is generally a history of occupational exposure. Intestinal anthrax is rarely reported.

The treatment is relatively simple. Penicillin is the drug of choice, with tetracycline as an alternate drug in the event of penicillin allergy.

The main method of prevention is control of the disease in animals, and disinfection of animal products. However, as pointed out earlier, this may not be done in certain developing countries. Therefore, caution should be exercised in purchasing animal hides and other related products from overseas locations. Don't let the drums endanger you! — *Pacific Health Bulletin,* No. 65, May-Jun 1974.

LT HENDERSON IS OUTSTANDING FLIGHT SURGEON GRADUATE

LT Sherry K. Henderson, MC, USNR, the 3rd woman to earn the gold wings of a naval flight surgeon, is the 1st woman to win the Navy Surgeon General's Award as the outstanding graduate of flight surgeon training. The red-haired physician received the award at graduation ceremonies held 19 Dec 1974 at the Naval Aerospace Medical Institute, Pensacola, Fla.

WINNING FLIGHT SURGEON.—LT Sherry K. Henderson, MC, USNR and her father, Mr. Bruce Henderson, display the Navy Surgeon General's Award she received as the outstanding graduate of flight surgeon training. With them are RADM Richard D. Nauman, MC, USN (left), CO, Nav Aer and REGMEDCEN, Pensacola, Fla., and Mrs. Bruce Henderson.

A 1973 graduate of the University of Utah Medical School, LT Henderson now joins the staff of VC-5, NAS Naha, Okinawa, where she will help keep flight crews flying safely and effectively. — PAO, Nav Aer and REGMEDCEN, Pensacola, Fla.

SPECIAL NURSE CORPS AUGMENTATION BOARDS DISCONTINUED

For the past 4 years the Nurse Corps has considered eligible Reserve officers for augmentation without application. The Special Nurse Corps Augmentation Board invited augmentation of officers who were considered "head and shoulders" above their peers. The program enjoyed a limited success, with 13% of those invited accepting augmentation.

During the same 4-year period, augmentation applications from Nurse Corps officers increased nearly 300%. With the increased interest in augmentation, the Special Nurse Corps Augmentation Board was no longer considered necessary, and was discontinued in Apr 1974.

Career-oriented Nurse Corps officers should apply for augmentation in accordance with BUPERSMAN 1020120. Such applications will be considered by the regular Augmentation Board, which meets quarterly in the Bureau of Naval Personnel. — *The Officer Personnel Newsletter* 19(2):23, Oct 1974.

ANTARCTIC SITES NAMED FOR NAVY PHYSICIANS

Dee Nunatak, a distinctive rock formation in Antarctica, is the latest geographical feature to be named for Navy physicians who have served in that area. Honoring LT Thomas H. Dee, MC, USN, medical officer at Byrd Station in 1970, the nunatak was named by the U.S. Advisory Committee on Antarctic Names, upon the recommendation of RADM David F. Welch, USN, commander of U.S. Naval Support Force, Antarctica (1969-1971).

A nunatak is a hill or mountain peak appearing above the surface of a glacier. Dee Nunatak rises above the ice of Garfield Glacier, approximately 5 miles east of the glacier's discharge into Hull Bay in Marie Byrd Land, Antarctica. The nunatak was mapped by the U.S. Geological Survey in 1968, using U.S. Navy tricamera aerial photographs. It will appear identified by name on map SS7-9/10 (Cape Burks), in the *Antarctica 1:250,000 Reconnaissance Series,* currently in preparation in the U.S. Geological Survey.

Other Antarctic geographical features named for Navy physicians include:

Ackroyd Point — LT Frederick W. Ackroyd, MC, USNR, medical officer at Naval Air Facility, McMurdo Sound, in 1958.

Archambault Ridge — LT John L. Archambault, MC, USNR, medical officer at McMurdo Station in 1967.

Bates Point — LT Thomas R. Bates, MC, USN, flight surgeon and medical officer at McMurdo Station in 1964.

Fortenberry Glacier — LT Ralph M. Fortenberry, MC, USN, medical officer at McMurdo Station in 1960.

Hughes Island — LT Ronald M. Hughes, MC, USN, medical officer at McMurdo Station in 1966.

Mount Beazley — LT Robert M. Beazley, MC, USNR, medical officer at the South Pole Station in 1965.

Novosad Island — LT Charles L. Novosad, Jr., MC, USNR, medical officer at Naval Air Facility, McMurdo Sound, in 1957.

Sullivan Peaks — LT Ronald C. Sullivan, MC, USNR, medical officer at the South Pole Station in 1967.

Tur Peak — LT Juan J. Tur, MC, USNR, medical officer at Hallett Station in 1957.

Unger Island — LT Pat B. Unger, MC, USNR, medical officer at Little America V Station in 1957. — PAO, Defense Mapping Agency, Topographic Center, Washington, D.C.

DIET COUNSELING: WHAT YOU SEE IS WHAT YOU GET

An eye-catching display has been assembled at Naval Regional Medical Center, San Diego, Calif., to help diet-conscious patients accept and adjust to new eating patterns. This touch of showmanship in diet counseling helps patients maintain their enthusiasm and interest while adhering to prescribed diets, and dramatizes the the observance of National Nutrition Week on 2-8 Mar 1975, at the NAVREGMEDCEN.

The 4-part display consists of:

- Samples of food, medications, and other items frequently used by dieters.
- A bulletin board on which are posted sample daily menus, menus from local restaurants, and a colored chart identifying the 6 categories of food exchanges.
- A showcase of pamphlets.
- Guides to buying low-calorie and low-sodium foods in the San Diego area.

Through this display, patients learn of the wide variety of eating experiences available to them despite their dietary restrictions, through the application of exchange substitutions and modifications. Low-calorie, low-sodium, and low-protein foods are exhibited, as are food products and equivalents developed for use by diabetic and allergic patients. A collection of medications is presented to warn patients of the adverse effect which

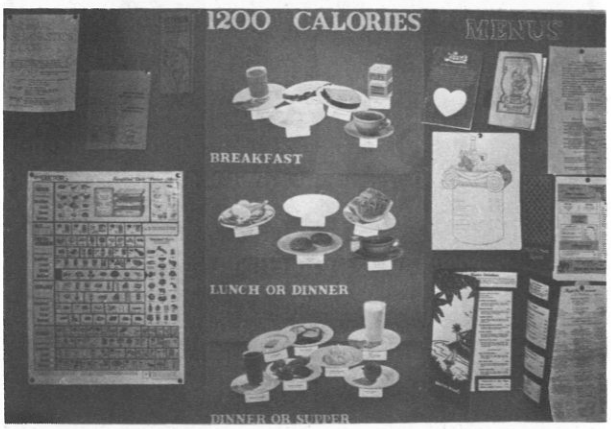
FOOD FOR THOUGHT.—This display of food products, sample medications, cookbooks, and brochures is designed to attract and inform diet-conscious patients at NAVREGMEDCEN San Diego.

DIET AIDS.—Sample foods provide evidence of the wide variety of eating experiences available to patients, despite dietary restrictions.

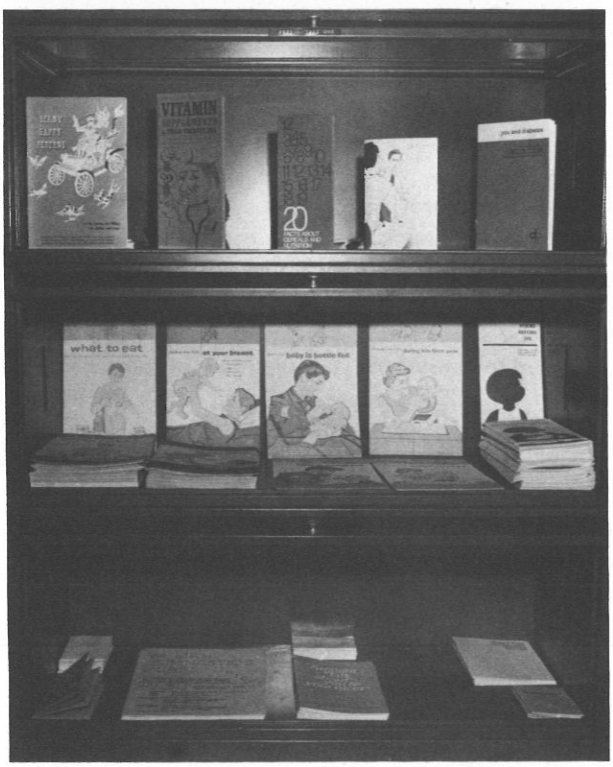
some drugs exert on the success of a diet. A high intake of vitamin C may conflict with certain cardiac prescriptions, for example, and high-sodium drugs must be evaluated in the low-sodium diet. Measuring cups, spoons, and various sizes of containers are displayed to help dieters become familiar with the exact amounts of food they are permitted to consume. The display is enhanced by a collection of cookbooks.

Information about nutrition, exercise classes, and cooking classes for dieters is routinely posted on the bulletin board, along with other items of interest about dieting.

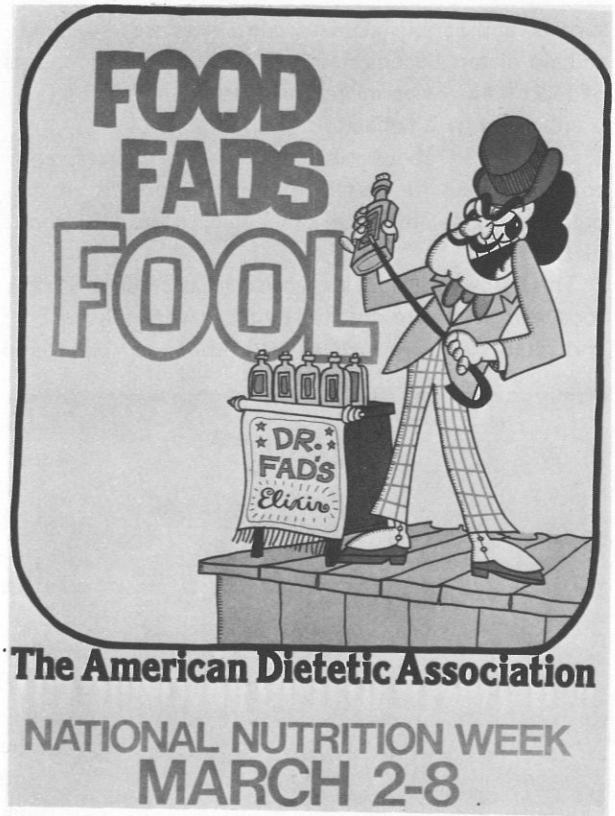
This display was not expensive to assemble. Sample food packages were donated by local wholesale vendors and retail stores, as well as by hospital personnel and



EASY TO FIGURE.—Sample menus, exchange charts, and information about exercise and cooking classes are posted on a convenient bulletin board.



GOOD READING.—Food and drug companies offer free pamphlets for distribution to patients.



patients. Publishers donated cookbooks, and free informative pamphlets were obtained from food and drug companies. Empty sample containers, which hold medications frequently prescribed for dieters, were obtained from pharmaceutical companies and the hospital pharmacy.

The display provides tangible evidence that, in dieting, "what you see is what you get." Patients are instructed to check the shelves and boards of the display periodically, to learn about new products available in local food stores and commissaries. They are also encouraged to consult the staff dietitian for further information. — LCDR Geneva G. Baker, MSC, USNR and LTJG Patricia L. Gremer, MSC, USNR; Clinical Nutrition Branch, Food Management Service, NAVREGMEDCEN San Diego, Calif. *Photographs, and references to commercial brands are not intended to imply product endorsement by the U.S. Navy, or the naval service at large.—Ed.*

NEW IDs TO BE ISSUED

Complying with requirements of the 1949 Geneva Convention, the Navy will begin issuing new identification cards in Jan to all active-duty members and to those civilians who accompany naval forces in technical, medical, or religious capacities.

New identification cards will first be issued to incoming recruits, and then to others as their current cards become invalid due to expiration or change in paygrade. Navy officials expect the transition to take about 18 months.

Changes to DD Form 528, the green identification card carried by most active-duty members, will be slight. The new cards will carry a notation stating the card meets the requirements set by the Geneva Conventions.

Information currently printed on the reverse of DD Form 528 in a vertical manner will be changed to a horizontal format. Fingerprints on the new card will not be required, but will be replaced with a Geneva Conventions' code number assigned to the member according to rank. — *NAVNEWS*, 27 Dec 1974.

NEW PREVENTIVE DENTISTRY COURSE

"Preventive Dentistry (NAVEDTRA 13115)," a new course based on the text *Preventive Dentistry and Its Practice in the Navy* (NAVEDTRA 10688), is now available for enrollment.

The course consists of 7 assignments: the 1st provides general background information and a survey of the field of preventive dentistry; the next 3 deal with dental diseases and methods of prevention and control; and the last 3 are devoted to patient education, a discussion of the responsibility of the dentist, and an overview of preventive dentistry programs.

Fourteen Naval Reserve retirement points will be awarded as follows: 12 points upon completion of assignments 1 through 6 (Unit I); and 2 points upon completion of assignment 7 (Unit II). — PAO, NNMC, Bethesda, Md.

JOINT COMMITTEE ON AVIATION PATHOLOGY REPORT AVAILABLE

Flight surgeons who participate in aircraft accident investigations may wish to study the report of the 8th scientific session of the Joint Committee on Aviation Pathology, held 8-11 Oct 1972. This report was published recently in *Aerospace Medicine* 45(8): Section II, Aug 1974.

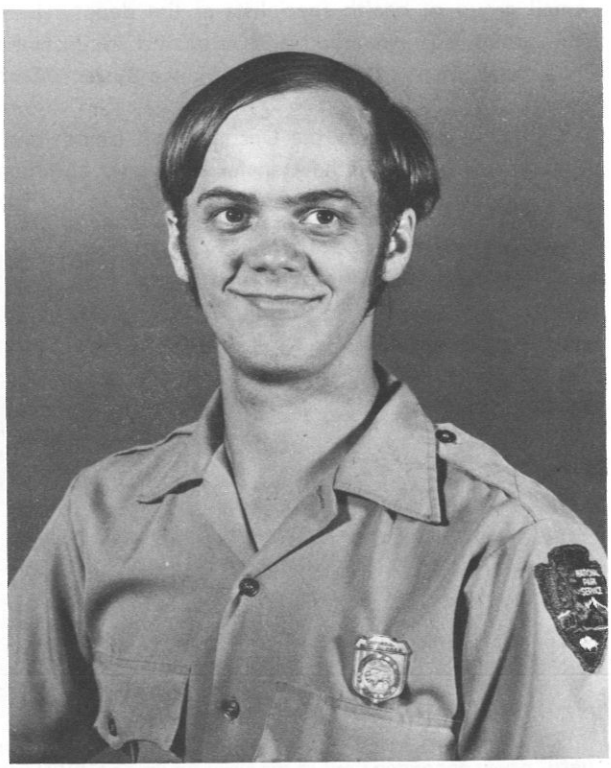
Reprints of this report are available from: Aerospace Medical Association, Washington National Airport, Washington, D.C. 20001. The publication costs $3.00 per issue, plus postage ($0.56 per issue for the U.S., Canada, and Mexico; $0.76 per issue for other countries). Payment must accompany orders. — BUMED Code 51.

NAVY'S FIRST KIDNEY RECIPIENT IS FRESHMAN MEDICAL STUDENT

At least one of the freshmen students at the University of Maryland's School of Medicine in Baltimore is already in a class by himself. The son of a retired Navy senior chief yeoman, 24-year-old David Bryan won honors last spring when he graduated from the University of Maryland, Baltimore County, with a double major in biology and psychology. But what distinguishes David from other medical students is the vital role medicine — and particularly Navy medicine — has already played in his life. For David is believed to be the first kidney-transplant recipient to be accepted into medical school in the U.S.

"I was afraid the transplant might hurt my chances for medical school," David says, "so I wrote a letter explaining my good health to accompany each application. It made an interesting point for discussion at interviews."

On 21 Oct 1969, after being ill with chronic glomerulonephritis since 2 years of age, David became the first person to receive a kidney transplant in a Navy medical facility. The operation was performed at the National Naval Medical Center (NNMC), Bethesda, Md., using a kidney donated by David's father.



UNIQUE MEDICAL STUDENT.—David Bryan, who in Oct 1969 became the 1st patient to receive a kidney transplant in a Naval medical facility, is now a student at the University of Maryland School of Medicine in Baltimore. He is believed to be the first kidney recipient accepted for medical school training.

"I felt better right after the surgery," David recalls; for 15 months immediately preceding the operation, he had required hemodialysis 3 times a week for periods of 6 to 8 hours. The morning after the surgery, he ate his first full meal in a year and a half.

David was released from the hospital 16 days after surgery. His busy life since then has included hobbies such as table tennis and swimming, work as a National Park Service ranger and as a laboratory assistant, and the study of advanced developmental biology. This past year he also conducted his own seminar in immunology related to the use of cell hybrids in the study of cancer.

LCDR Nicholas J. Feduska, MC, USN, head of transplantation surgery at NNMC, is aware of only one person on hemodialysis who has been accepted to medical school. He knows of no one, other than David, who entered medical school after receiving a kidney transplant.

Since 1969, 20 kidney transplants have been performed through the joint efforts of NNMC and the Naval Medical Research Institute. Another 23 patients are currently waiting for suitable donors to provide the kidneys needed for their operations. — PAO, NNMC, Bethesda, Md.

HM2 BURKHARTSMEIER LISTED AMONG OUTSTANDING YOUNG MEN OF AMERICA

HM2 Gary Burkhartsmeier, USN, a clinical research technician at the Clinical Investigation Center, NAVREGMEDCEN Oakland, Calif., has been selected to appear in the 1974 Awards Volume of *Outstanding Young Men of America*. This publication recognizes men between the ages of 21 and 35 who have distinguished themselves by civic and professional achievements.

Since joining the Clinical Investigation Center staff 2½ years ago, HM2 Burkhartsmeier has accomplished work far beyond the usual capabilities of a laboratory technician. He invented a system of multiple pressure columns which greatly improved the methodology for radioimmunoassay, and allowed more than one study to be performed at a time. His system for chromatographic separations uses carefully regulated air or inert-gas pressure applied through a multicolumn manifold. Each column is independently regulated so that gas pressure may be set and precisely maintained throughout the separation. An automatic venting system returns each column to atmospheric pressure when shut off. With this new system, 8 to 10 columns can be

ACCOMPLISHED INVENTOR.—HM2 Gary Bukhartsmeier demonstrates the system of multiple pressure columns which he invented for use in radioimmunoassay determinations at the Clinical Investigation Center, NAVREGMEDCEN Oakland, Calif.

simultaneously driven from a single laboratory air outlet or inert-gas tank. The Office of Naval Research is currently processing a request for issuance of a patent on HM2 Burkhartsmeier's invention.

HM2 Burkhartsmeier is also the principal investigator of an intricate research project to develop a double isotope derivative assay of dopamine metabolites, a determination which will aid in the evaluation of hypertension and other metabolic abnormalities.

A native of Ludington, Mich., HM2 Burkhartsmeier graduated from the Naval Hospital Corps School at San Diego, Calif., in 1970, where he received the Hugh E. Perkins Award for academic leadership. He is also a graduate of the Clinical Research Technician School (1972), NAVREGMEDCEN Oakland, and now coordinates that training program. During off-duty hours he completed the requirements and earned a B.S. degree in biological sciences from Washington State University, Pullman, Wash.

This talented and dedicated hospital corpsman hopes to obtain a medical degree in the future, and to pursue a career in medical research. — Courtesy of CDR J.D. Wallin, MC, USN, director of the Clinical Investigation Center, NAVREGMEDCEN Oakland, Calif.

NAVY ENVIRONMENTAL HEALTH CENTER UPGRADED

With the Navy Surgeon General and other distinguished guests looking on, the Navy Environmental Health Center, Cincinnati, Ohio, was officially upgraded to shore activity status in ceremonies conducted on 6 Sep 1974.

The Center has operated since 1971 under the direction of CAPT George M. Lawton, MC, USN, currently director of the Division of Occupational Environmental Health (BUMED Code 56). He was relieved by CDR T.N. Markham, MC, USN, who is now officer-in-charge. Both physicians are Diplomates of the American Board of Preventive Medicine in occupational medicine.

The Center staff provides environmental health support to the Navy, afloat and ashore, including program guidance and evaluation, health hazard appraisal, training, technical consultation, and field and laboratory analytical services in the areas of occupational medicine, industrial hygiene, toxicology, and radiological health.

The need for such support was recognized in the mid 1960s by CAPT E.R. Pettebone, USN, then commanding officer of the Naval Ammunition Depot, Crane, Ind. CAPT Lawton was subsequently assigned to head a small group of health specialists at the depot. Later, the group was expanded and relocated in Cincinnati as a detachment of the Naval Ordnance Systems Command.

With the passage of the Occupational Health and Safety Act of 1970, the transfer of Center command and support to BUMED, and realignment of the naval

NEW ON THE JOB.—CDR Thomas N. Markham, MC, USN (left), newly appointed head of the Navy Environmental Health Center, Cincinnati, Ohio, and staff member Gerald E. Wright, industrial hygiene chemist, examine an atomic absorption spectrophotometer used in the Center to measure low levels of chemical compounds in biological and environmental samples. (Photo by Mimi Fuller, courtesy of *The Cincinnati Post*.)

establishment, including the establishment of naval regional medical centers, the scope and responsibilities of the Center were greatly expanded.

The Center now encompasses an industrial hygiene reference laboratory, and can provide technical support to other system commands upon request.

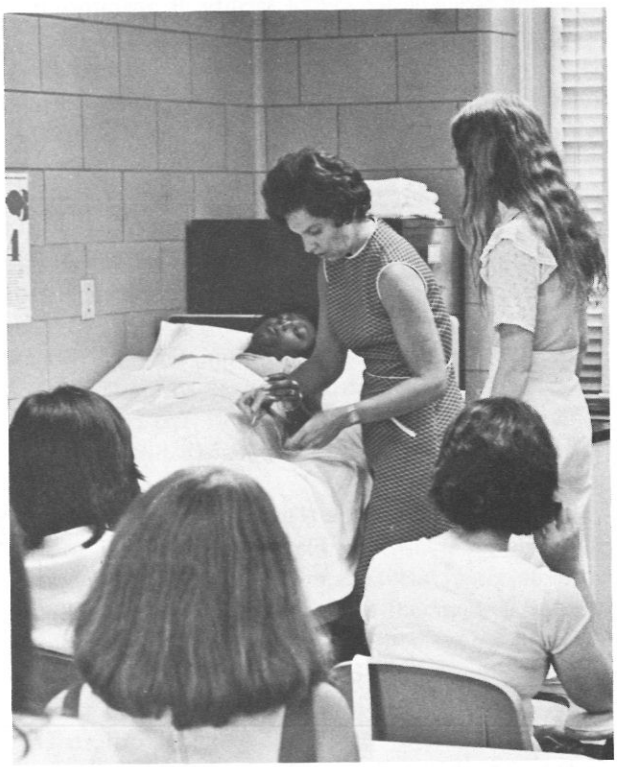
Personnel of the Center include both military and civilian occupational health physicians, industrial hygienists, chemists, environmental and radiologic health specialists, an occupational health nurse, and administrative assistants. There are 8 military personnel and 13 civilians presently assigned. — PAO, NAVENVIRHLTHCEN, Cincinnati, Ohio.

HIGH-SCHOOL STUDENTS AT NNMC

Thirty-one students from high schools in Montgomery County, Md., are participating in a 1-year educational program at the National Naval Medical Center (NNMC), Bethesda, Md., designed to acquaint them with the opportunities and challenges offered by careers in the health field.

Under an agreement signed on 13 Sep 1974 by RADM R.G. Williams, Jr., MC, USN, commanding officer of NNMC and Dr. Homer Elseroad, superintendent of Montgomery County Public Schools, selected junior and senior-year students receive one semester of classroom instruction, and one semester of practical training in the health professions at NNMC. During the first semester the students are instructed in selected aspects of the health-care-delivery system: personal health and hygiene, interpersonal relationships, communication skills, medical terminology, nutrition, anatomy, mathematics, ethics, physiology, and other related sciences.

During the second semester the students observe and, when possible, participate in suitable activities of selected clinics and departments at the medical center. — PAO, NNMC, Bethesda, Md.



VITAL SIGNS.—Mrs. Catherine Johnston, teacher-coordinator of the Health Occupations Course offered by the NNMC, Bethesda, to selected Montgomery County high-school students in Md., is about to demonstrate the accepted technique for taking a patient's pulse. Janette Grant, a student, plays the patient role. (Photo by HM2 Garry Silk, USN).

ACADEMIC HONORS FOR CDR THOMPSON

CDR Robert L. Thompson, MC, USN, recently named chief of the Environmental Pathology Branch, Armed Forces Institute of Pathology (AFIP), Washington, D.C., is the 1st career medical officer in the armed forces to concurrently complete the AFIP advanced

ACADEMIC FIRST.—CDR R.L. Thompson, MC, USN, is the 1st career medical officer in the armed forces to concurrently complete the AFIP advanced residency in forensic pathology and the master's degree program in forensic science at George Washington University.

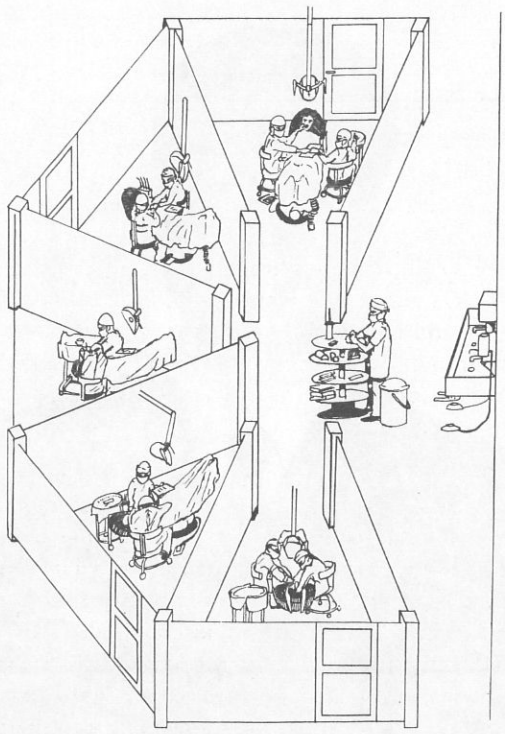
residency in forensic pathology and the master's degree program in forensic science at George Washington University. For his academic achievement, he was recognized by the AFIP Department of Forensic Sciences as an honor graduate among his group of 10 military candidates for master's degrees.

During his forensic pathology residency, CDR Thompson also trained with the Department of Physical Anthropology of the Smithsonian Institution, the State of Maryland Office of the Chief Medical Examiner, and the federal Drug Enforcement Administration.

A graduate of the University of Mississippi Medical School, CDR Thompson began his Navy medical career in 1962. After training as a flight surgeon and a tour of duty in the Philippines, he completed a residency in pathology at Nav Hosp St. Albans, N.Y. From 1969 to 1973 he served as chief of the laboratory service at Nav Hosp Camp Lejeune, N.C. — PAO, AFIP.

RADIAL-DESIGN DENTAL FACILITIES

Dental facilities now under construction at Naval Air Station, Moffett Field, Calif., and Naval Regional Dental Clinic, Great Lakes, Ill., feature a radial design that will enable dental personnel to care for patients more efficiently. A sharp departure from the conventional spaces dedicated to the delivery of dental care, these new facilities will be used to treat patients who require lengthy or multiple dental procedures.



RADIAL DESIGN.—This artist's concept of a radial-design dental facility differs only slightly from new facilities being constructed by the Navy. Navy radial-design dental installations will have only 4 operatory modules fanning out from both sides of a central station for sterile supplies.

FOUR-HANDED DENTISTRY.—Using aseptic technique, a Navy dental officer and his assistant perform a dental operative procedure.

In the radial-design dental facility, 8 operatory modules, each containing a single contoured dental operating chair, fan out from a central station where sterile supplies are kept. Ideally, the staff will consist of 4 dental officers assisted by several technicians, in the facilities now under construction. Some technicians will directly assist the operating dental officer, while roving technicians are posted in the central area.

During a given procedure the dentist-technician team is seated with one on each side of the supine patient, in the "four-handed" dentistry configuration. The roving technician supports the operating team on demand, by delivering sterile instrument packs and removing contaminated packs from the operatory. The operator and the assistant do not leave the patient's side until treatment is completed.

Tests conducted at the Naval Training Centers Great Lakes, Ill., and Orlando, Fla., have indicated that this versatile design facilitates the delivery of complete aseptic dental treatment with maximum comfort and convenience for the patient, dental officer, and technician.

In addition to the operatories, radial-design dental facilities will contain scrub rooms, case presentation rooms, and record rooms where dental officers may review patient histories and X-ray studies.

Similar facilities are planned for future refurbishment of naval installations located at San Diego, Camp Pendleton, and Lemoore, Calif.; Barbers Point, Hawaii; and Norfolk, Va. — BUMED Code 6.

OFFICIAL INSTRUCTIONS AND DIRECTIVES

BUMEDINST 5236.1 of 6 Sep 1974

Subj: Automatic data processing services procured by contract

Authorization to approve acquisition of automatic data processing (ADP) contractual services or computer programs is delegated to the Chief, BUMED, to a threshold of $75,000 in a consecutive 12-month period (per OPNAVINST 5236.2 of 2 Jul 1974). When approval of General Services Administration (GSA) is required, such approval will be obtained by BUMED or the Navy approving official. No effort to obtain GSA approval should be made prior to submission of the request for Navy approval. However, the required check with GSA-ADP sharing exchanges must still be made before submitting requests.

If ADP resource sharing is not available, a certificate of nonavailability issued by the GSA sharing exchange serving the requestor's geographical area, must accompany the request submitted to BUMED. In the absence of a certificate of nonavailability, procurement of ADP time is not authorized.

Information copies of each contract, contract approval, and other supporting data shall be forwarded to the Chief of Naval Operations (OP-91). An information copy of each contract awarded shall be forwarded to BUMED Code 48.

The provisions of SECNAVINST 5236.2, par 7, shall be adhered to closely in preparing requests for authority to contract for ADP services. Complete and accurate documentation will facilitate processing and approving of these requests.

Requests to exercise options for continuation of services provided for in existing contracts shall contain sufficient detail to identify the total workload, and shall be forwarded for review and approval prior to initiating contract action.

BUMEDINST 6260.2B of 6 Sep 1974

Subj: Water and salt requirements in hot environments and climates

1. Purpose. To provide information and institute a policy change regarding water and salt (sodium chloride) requirements for personnel subjected to high environmental temperatures.

2. Cancellation. BUMED Instruction 6260.2A is canceled.

3. Essential Information Regarding Salt and Water Intake

a. Water and Salt Balance

(1) Excessive consumption of salt must be avoided in attempting to maintain water and salt balance. Excessive salt can have serious consequences just as inadequate salt can. The goal is balance, neither too much nor too little.

(2) When the adverse effects of salt depletion through failure to replace salt lost through sweating were recognized, an attempt was made to avoid such depletion by loading the body with salt, generally in the form of salt tablets. It was assumed that the body would retain only the salt needed, and would eliminate excess salt without harmful effects. This assumption proved to be wrong.

(3) Some persons assumed that consumption of salt tablets would somehow let the body tolerate a smaller water intake. The contrary is the case. For salt and water balance, more salt requires more water and more water requires more salt. Furthermore, there are upper and lower limits to the amount of even balanced salt and water which the body can accept without impairment of performance.

(4) It took some time to dispel the idea that the body could be conditioned to function efficiently on inadequate water intake ("water discipline" of days gone by). It is now necessary to dispel the idea that massive salt intake is the answer to heat problems. Very recent studies indicate that when a normal diet is consumed, the ingestion of up to 2 grams of additional sodium chloride (roughly 3 salt tablets) per day does NOT reduce the incidence of heat cramps or heat stroke, and only slightly reduces the incidence of heat exhaustion. When more than 2 grams of additional salt were taken daily, the incidence of all 3 types of heat illness increased.

b. Salt, Water, and Rations

(1) Persons working in a hot environment must not miss meals if they are to avoid heat illness. During the first 4 or 5 days of acclimatization to a hot environment, a person may require up to 2 grams of salt in addition to that provided by normal food. This is best provided by use of the salt shaker. If salt tablets are used, no more than 3 a day should be taken, and adequate water to balance the supplementary salt is essential.

(2) It is important to be aware that field rations, such as "C" rations and Long Range Patrol Rations, are not "normal food." They are heavily loaded with

salt, which has been added primarily as a preservative. They average 25 grams of sodium chloride per day plus 5 grams of additional salt in packets. Persons eating such rations are on a high salt intake, and should be observed for symptoms of salt excess as described below. They should not take salt tablets.

c. Excess Salt Symptoms

(1) Symptoms of excess salt include gastrointestinal distress, muscular soreness intensified after physical work, fatigue, and decreased work capacity. Metabolic efficiency is impaired, and there is decreased cardiovascular function characterized by depressed heart rate when it should be elevated, with decreased diastolic and mean arterial pressures. Total vascular resistance and cardiovascular reserve may be reduced to near-shock levels during physical work. Progressive loss of potassium is reflected by serum electrolytes, and electrocardiogram changes suggestive of hypokalemia and left ventricular dilatation. There is increasing strain on the kidneys with progressive urinary loss of potassium, calcium, sodium, and chloride. Hematuria may appear after exhausting work. Heat acclimatization and temperature regulation are impaired. Mental function may deteriorate, and disorientation may occur.

d. Potable Water Needs

(1) Adequate potable water should be made available at all times to personnel working in hot compartments or hot weather, and personnel should be strongly encouraged to drink small amounts of water frequently. They should drink water moderately, in excess of the amount necessary to quench thirst but not to the extent of abdominal discomfort. Water intake should be sufficient to produce 2 pints of urine per 24 hours. For logistic purposes, allowance should be made for 4 gallons of drinking water per person per day. This does not include water for other purposes, such as bathing.

(2) When personnel must work and water supply is limited, as in "survival" type situations, they should be advised that hard work will make them feel uncomfortable. The discomfort may be tolerated for a workday, but physiologic efficiency will decrease progressively throughout the day. Personnel should be encouraged to conserve water during the first hour of their exposure to a hot environment. After the first hour, the ration of water should be consumed in small sips so as to spread consumption of the water ration over the period for which it is intended. Physical activity should be kept to the minimum consistent with mission accomplishment. Where possible, work in direct sunlight should be avoided or minimized by taking advantage of shade, and the time between sunset and sunrise. Where practical aboard ship, remove elements of equipment or machinery from hot spaces so that detailed work may be done in cooler spaces. Humans can function in emergencies with inadequate water, but at an increasing cost, just as a water-cooled engine can function with a leaking radiator. The person and the engine can continue, but with progressive deterioration of performance until irreversible damage is done.

4. General Guidelines Regarding Salt and Water Intake

ITEM	SALT	WATER
A. Best time for administration.	At mealtime and during rest periods with food.	During work and rest whenever thirsty.
B. Probable optimal amounts for average man working hard enough to sweat profusely.	Average total dietary intake ranges from 15-20 gm. NaCl per day. Less than 2 gm. of supplementary NaCl required for adapted men that are consuming a daily normal diet. No supplementary NaCl required for men consuming field rations.	Enough to keep the thirst quenched at all times possible (as much as 15 quarts per 24 hrs. may be needed). Take in small amounts, but sufficient to dilute ingested NaCl. Urine output should be about 2 pints per day.
C. Effect of deprivation during the day's work.	No symptoms and no measurable effects unless men were previously low in salt intake, which may result in either heat cramps or electrolyte-type heat exhaustion.	Excessive thirst and fatigue, increasingly elevated heart rate, and rise in body temperature as work continues; eventual heat exhaustion or hyperpyrexia.

4. General Guidelines Regarding Salt and Water Intake (Con.)

ITEM	SALT	WATER
D. Excess during the day's work.	*Acute (1 day or less):* Excessive thirst; often gastrointestinal upsets, characterized by vomiting and diarrhea; relative low cardiovascular reserve and sweat rate, and high body temperature.	Occasionally uneasiness of gastrointestinal tract if iced water is drunk. Excessive amount of urination. Potential edema.
	Chronic (more than 1 day): Excessive thirst; gastrointestinal upsets; sore muscles; fatigability; depression of heart rate and diastolic blood pressure; ECG changes suggesting hypokalemia and dilation of the heart; decreased optimal work capacity; impairment of heat acclimatization and temperature regulation; suppression of sweating; hematuria; marked increase in urine potassium, calcium, sodium, and chloride, and decreased total body potassium. If NaCl is not sufficiently diluted, the incidence of heat cramps, heat exhaustion and heat stroke may dramatically increase.	Occasionally uneasiness of gastrointestinal tract if iced water is drunk. Excessive amount of urination. Potential edema.
E. Effect of long continued deprivation (over a period of days).	Reduced performance, easily fatigued; increased incidence of heat illnesses.	Decreased efficiency; excessive thirst; high fever; eventual death due to dehydration.

5. Sodium Chloride Tablets, Impregnated, Uncoated, 0.648 Gm. Use of salt (sodium chloride) tablets must be considered as a *medically controlled* procedure for both routine and emergency situations. *Salt tablets must not be used indiscriminately.* Should it be necessary to use salt tablets, *they must not be taken in excess of 3 tablets per day if personnel are eating a normal diet. Salt tablets must not be consumed if personnel are eating field rations* (i.e., "C" Rations or Long Range Patrol Rations).

6. Indoctrination. Officers and enlisted men should be informed of the contents of this instruction. They should be made aware of the requirements of water and salt when working in hot environments, and of the improved physical condition and better performance that may be expected from following this instruction.

BUMEDINST 6120.3L of 13 Sep 1974

Subj: Medical examination of U.S. Service Academy and ROTC 4-year scholarship applicants

Authorized applicants for an ROTC 4-year scholarship or appointment to a U.S. Service Academy must be given a final or qualifying type medical and dental examination, following the guidelines provided in this instruction. Examinations must be scheduled by the Department of Defense Medical Review Board (DOD MRB), and will be conducted only at DOD-MRB-approved facilities by staff physicians. Examinations will be provided beginning 1 Jun, 2 years prior to the applicant's proposed entry into the program.

Approximately 15 days prior to examination dates, DOD MRB will send each examining center a list of scheduled examinees. The list will be annotated at the center to reflect those applicants who actually report for examination, and should then be immediately forwarded to DOD MRB. Completed medical forms, clinical records, dental radiographs, and any required dental diagnostic casts should be forwarded to DOD MRB within 10 workdays. Certificates from private physicians or other evidence offered in rebuttal of disqualification may also be sent to DOD MRB.

Only the medical facility commander, or a staff medical officer at a higher echelon of command than the examining physician, are authorized to discuss the findings of the examination with the applicant.

Supplemental services not available at a government medical facility may be obtained from civilian sources at government expense if local funding is available. If funds are not available, the applicant may elect, at his own expense, to use local civilian sources or to travel to another government facility for such service.

BUMEDINST 6260.16 of 9 Oct 1974

Subj: Polyurethane paints and other substances containing isocyanates; measures for control of health hazards related to

Isocyanate vapors given off during preparation, application, and "curing" of polyurethane paints can cause irritation of the skin, eyes, or respiratory tract, and can produce allergic reactions such as bronchospasm in sensitized individuals. Sensitization tends to be permanent, and generally precludes any further exposure to isocyanates.

Commanders of activities where polyurethane paints or other substances containing isocyanates are used shall: (1) insure that an on-site industrial survey of work areas is conducted at least once a year; (2) insure that such items are used only for authorized applications, and in accordance with precautionary guidelines listed in this instruction; (3) insure that medical evaluation and surveillance of all personnel exposed to isocyanates be conducted in accordance with procedures set forth in this instruction.

Any individual ordered to the Aircraft Paint and Final Finish Course shall be medically evaluated prior to detachment from his command, and shall present a copy of his favorable evaluation upon reporting for the course. Change or cancellation of orders shall be requested for persons not found to be medically qualified to attend the course.

BUMEDNOTE 5430 of 11 Oct 1974

Subj: Transfer of Office of Equal Opportunity Assistant (Code 16) to Neuropsychiatry Branch (Code 313)

Code 16 is disestablished, and the Office of Equal Opportunity (OEO) Assistant is transferred to the Neuropsychiatry Branch of BUMED. All matters concerned with the OEO Assistant should be referred to Code 313.

BUMEDINST 5450.63B of 30 Oct 1974

Subj: Naval Medical Research and Development Command, Bethesda, Md.; mission and functions of

The mission of the Naval Medical Research and Development Command is to manage Navy Medical Department research, development, test, and evaluation programs concerning the health, safety, and performance of naval personnel. The following component commands are assigned to the Command for operation:

Naval Aerospace Medical Research Laboratory, Pensacola, Fla.

Naval Dental Research Institute, Great Lakes, Ill.

Naval Medical Field Research Laboratory, Camp Lejeune, N.C.

Naval Submarine Medical Research Laboratory, Groton, Conn.

Naval Medical Research Institute, Bethesda, Md.

Naval Health Research Center, San Diego, Calif.

U.S. Naval Medical Research Unit No. 3, Cairo, Arab Republic of Egypt

U.S. Naval Medical Research Unit No. 2, Taipei, Republic of China

Naval Blood Research Laboratory, Chelsea, Mass.

U.S. Naval Medical Research Unit No. 5, Addis Ababa, Ethiopia

Naval Unit, Fort Detrick, Frederick, Md.

BUMEDNOTE 1500 of 8 Nov 1974

Subj: Medical Department education and training programs

All Medical Department training is under the direct or technical control of the Naval Health Sciences Education and Training Command (HSETC), with education and training functions occupying 3 organizational levels:

Echelon 2: Special Assistant for Medical Department Education and Training, BUMED, who advises the Navy Surgeon General on education and training matters, including establishing policy, program response to training requirements, approval of recommended priorities, and support of resource requirements.

Echelon 3: HSETC, whose CO implements policy and exercises management control of health sciences education and training programs.

Echelon 4: Subordinate training activities, and education and training functions provided in BUMED commands which have a primary mission other than training.

Information about programs within the purview of HSETC may be obtained from: CO, HSETC, National Naval Medical Center, Bethesda, Md. 20014. Appropriate HSETC corps codes are: Clinical Investigation Program, Code 3; Medical Corps, Code 4; Dental Corps, Code 5; Medical Service Corps, Code 6; Nurse Corps, Code 7; and Hospital Corps, Code 8.

---

104 — AND GOOD FOR MORE

The 104th anniversary of the legislative establishment of the Navy Medical Corps will be observed 3 Mar 1975. Heading the list of Medical Department-wide celebrations is a gala anniversary party to be held 7 Mar 1975 at the Commissioned Officers' Mess (Open), National Naval Medical Center (NNMC), Bethesda, Md. All officers of the Navy Medical Department, as well as officers of other military services, are invited to attend with their ladies and/or guests.

Tickets to this event are $8.50 per person, and may be obtained from:

CDR R.E. Erwin, MSC, USN
Department of the Navy
Bureau of Medicine and Surgery
Washington, D.C. 20372

Festivities begin at 1900 hours. There will be a cash bar. Male officers should wear Service dress blues, while ladies and civilian guests may wear appropriate civilian attire.

The success of the celebration has been assured by the careful planning of the 104th Navy Medical Corps Anniversary Party Committee, under the direction of RADM R.G. Williams, Jr., MC, USN, CO of NNMC. Committee co-chairman is RADM-select D.E. Brown, MC, USN, deputy CO of NNMC.

Subcommittee chairmen for the event include: CAPT M.T. Lynch, MC, USN (Publicity); CAPT E.B. McMahon, MC, USN (Food, Program, and Entertainment); CAPT W.M. Narva, MC, USN (Guest List, Invitations, Parking, and Security); and CAPT J.E. Wilson, MC, USN (Decorations and Photography).

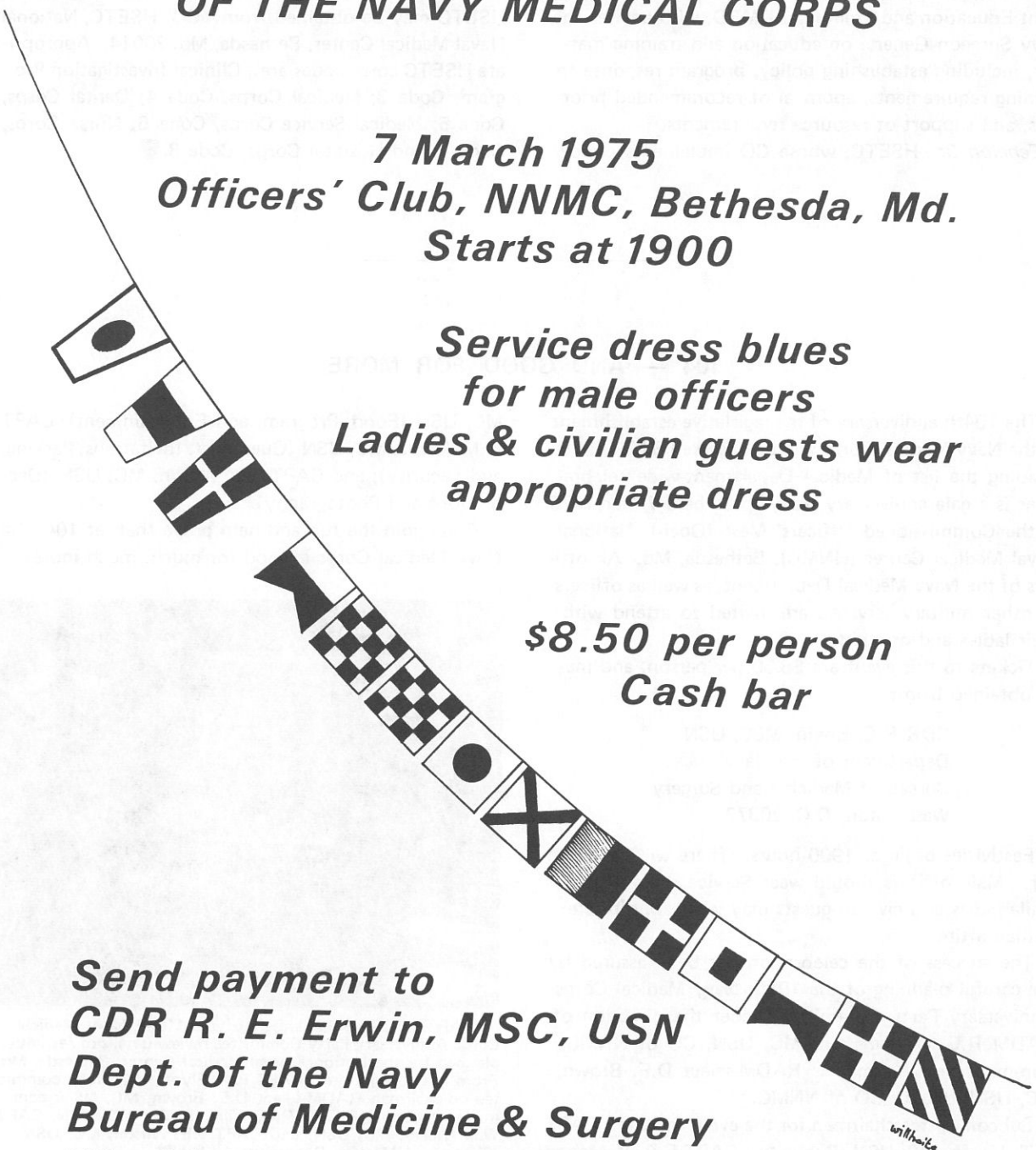
Come join the fun and help prove that, at 104, the Navy Medical Corps is good for much, much more!

PARTY PLANS.—Members of the 104th Navy Medical Corps Anniversary Party Committee review details of festivities planned for the National Naval Medical Center, Bethesda, Md. From left to right are: CAPT P.A. Flynn, MC, USN; committee co-chairman RADM-select D.E. Brown, MC, USN; committee chairman RADM R.G. Williams, Jr., MC, USN; CAPT W.M. Narva, MC, USN; and CAPT J.E. Wilson, MC, USN. (Photo by HM1 Ken Dougherty, USN.)

You are cordially invited to a party celebrating the

104th ANNIVERSARY

OF THE NAVY MEDICAL CORPS



7 March 1975
Officers' Club, NNMC, Bethesda, Md.
Starts at 1900

Service dress blues
for male officers
Ladies & civilian guests wear
appropriate dress

$8.50 per person
Cash bar

Send payment to
CDR R. E. Erwin, MSC, USN
Dept. of the Navy
Bureau of Medicine & Surgery
Washington, D. C. 20372

☆ U. S. GOVERNMENT PRINTING OFFICE : 1975 586-151/S-7

UNITED STATES NAVY MEDICINE

CORRESPONDENCE AND CONTRIBUTIONS from the field are welcomed and will be published as space permits, subject to editing and possible abridgment. All material should be submitted to the Editor, *U.S. NAVY MEDICINE,* Code 18, Bureau of Medicine and Surgery, Washington, D.C. 20372.

NOTICES should be received not later than the third day of the month preceding the desired month of publication.

PROFESSIONAL PAPERS AND ARTICLES should be typewritten on one side of the paper, double spaced, with liberal margins. Original and one carbon copy are required. Generic names of drugs are preferred. If the author's present affiliation differs from that under which the reported work was done, both should be given. Unless otherwise indicated, it will be assumed that the article presented has not been previously printed or delivered elsewhere. Papers which have been delivered or printed elsewhere, covered by copyright, cannot be reprinted in *NAVY MEDICINE* without the written permission of the author(s) and copyright holder. It is the responsibility of the author(s) to inform *U.S. NAVY MEDICINE* when the material submitted has been previously used or copyrighted. In selecting manuscripts for publication in *NAVY MEDICINE,* preference is given to original articles.

ILLUSTRATIONS are acceptable when they substantially contribute to the understanding of the basic material. Only distinct, glossy, black and white **PHOTOGRAPHS** which are functional can be printed. Prints should not be mounted, stapled, clipped or otherwise deformed and can be marked lightly on the back with the figure number. Legends should be typed consecutively on a separate paper with the indicated figures; credits for the photography may also be included. Identities of patients should be masked. **DRAWINGS, TABLES AND GRAPHS** should be minimal in number and properly labeled. They should be neatly done in heavy black ink on white paper, one to a page.

SUGGESTIONS are invited concerning *U.S. NAVY MEDICINE,* its content and form.

U.S. NAVAL PUBLICATIONS and FORMS CENTER
ATTN: CODE 306
5801 Tabor Avenue
Philadelphia, Pa. 19120
Official Business

POSTAGE AND FEES PAID
DEPARTMENT OF THE NAVY
DoD-316

DENTAL HEALTH STARTS HERE.—During National Children's Dental Health Week (2-8 Feb 1975), young Navy dependents at U.S. Fleet Activities, Yokosuka, Japan (left) and Naval Training Center, Orlando, Fla. (right) receive instruction in the techniques of preventive dentistry. (Photo at right by PH3 J.M. Medland, USN.)

U.S. NAVY MEDICINE